Towards a socio-technical framework for designing a collaborative community

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Date: 12th of august 2022

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Word of gratitude

It is often said that writing a thesis is a marathon, not a sprint. There is no doubt about that after working on my master thesis for more than two years. The process of writing required a lot of persistence and endurance, which I couldn't always cope with for the first time in my life. Finishing this thesis would not have been possible without the support of several people, for whom I am grateful.

First and foremost, I'd like to thank prof. dr. Patrick Vermeulen for sticking with me as a thesis supervisor all this time and his thorough and constructive feedback. I admire his patience, helpfulness and knowledge in this field. Second, I'd want to express my gratitude to Cirkelstad, specifically Rutger Buch for enabling this research, and offering the opportunity. Furthermore, for offering help in difficult times.

Third, I'd like to express my gratitude to those who assisted me during the process, whether it was a little or a lot. To that end, I'd like to thank my fellow students at the Radboud University for always offering a listening ear, giving feedback and moral support. Additionally, my special thanks go out to my family and friends for standing by me, supporting me, and believing in me, even when I lost myself.

Yours sincerely,

Teun Gootzen

Abstract

The organizational environment is changing fundamentally as the nature of work is becoming increasingly complex and knowledge based. The limitations of traditional organizational design theories have become increasingly apparent. This highlights the need for collaborative organizational forms that go beyond the boundaries of a single organization. A collaborative community is such a form that emerges in society that we do not know how to design for. Guided by this new paradigm and the need for a better contextualized understanding, this research aims to gain a better understanding of how to (re)design a collaborative community. Consequently, the research question is: *´Do the suggested design elements support the design of a collaborative community?*' To answer this question, this research compares an empirical organizational structure with the current understanding of a sociotechnical systems design and interorganizational collaboration. Qualitative research is done in an organization that fits the concept of a collaborative community. In two different sections of the organization six interviews were conducted. As a result, the expected design elements, 'design specifications', 'governance structure', 'frame and shared purpose' and 'support systems', where found to play an essential part in designing for a collaborative community. A sociotechnical systems design perspective provides useful parameters to make sure an organization has a simple structure with low structural complexity.

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Chapter One: Introduction

§1.1 Problem definition

The organizational environment is changing fundamentally and as we are moving ahead, we are closely observing for more insights and understanding (Burton & Obel, 2018). The managerial hierarchy as we know it in many modern organizations is as persistent as are calls for its replacement (Lee & Edmondson, 2017). Over the last half-century, limitations of traditional organizational designs, which typically are based on hierarchy as the primary means of control and coordination, have become increasingly apparent (Lee & Edmondson, 2017; Bøllingtoft, Donaldson, Huber, Håkonsson & Snow, 2011). This highlights the need for collaborative organizational forms that go beyond the boundaries of a single organization (Adler, Kwon, & Heckscher, 2008). While these forms emerge in the organizational environment there is no clear design framework to support this evolution (Mohr & Dessers, 2019).

Hierarchy is not well suited for a number of interrelated trends, intensifying the need for a novel understanding of organizational design in the twenty-first century (Bøllingtoft et al., 2011; Scott, 2020). To begin with, the nature of work is fundamentally changing as it is becoming increasingly complex and knowledge based (Scott, 2020). The complex and shifting nature of work means that people, from different domains and with diverse skills, are needed to collaborate to identify challenges, advance solutions, and commit to actions that could not be effectively addressed by working independently (Fjeldstad, Snow, Miles & Lettl, 2012; Scott, 2020). A second and related trend is that organizations are operating within an increasingly complex, dynamic and highly interconnected environment (Fjeldstad et al., 2012). Today's organizational context seems defined by change and uncertainty and note the problematic implications of this trend for the managerial hierarchy. Customer preferences, standards, boundaries, technological tools and governing legislation evolve more quickly than managerial controls allow for, leading to missed opportunities and other failures (Lee & Edmondson, 2017). In this organizational world beyond the steady state, we must not only connect relevant field experts around emerging priorities but do so with speed and agility (Scott, 2020). Third, a trend towards viewing work as place for personal meaning, emphasizes the increasing importance for trust and collaboration. This trend puts focus on what is done as an organization and the impact of collective efforts on broader society. Formal rationality provided by bureaucracy and hierarchy cannot by itself provide the unity of action and

institutional robustness that is provided by a collective motivation and shared purpose (Adler & Heckscher, 2018). Together, these trends are leading to a new reality in which the traditional notion of organizational design requires a rethink.

In line with these pressing trends, new collaborative organizational forms are emerging that are echoing calls for research and theory on adaptive, self-organizing, and innovative organizations (Kolbjørnsrud, 2018). In literature there are plenty of overlapping terms and concepts for collaborative organizational forms such as the C-form (Seidel & Stewart, 2011), bazaar governance (Demil & Lecocq, 2006), the meta-organization (Gulati, Puranam & Tushman, 2012), integrated ecosystem (Mohr & Dessers, 2019), actor-oriented organizations (Fjeldstad et al., 2012) and the collaborative community (Adler & Heckscher, 2006). In this thesis the focus is on these new collaborative organizational forms, mainly on the collaborative community. The collaborative community is an organizational form that enables actors to collaboratively solve problems and share knowledge using commonly held resources to accomplish a shared purpose in a continuous manner (Haakonsson, Bach, Snow & Obel, 2017; Kolbjørnsrud, 2018). Opposed to traditional organizations, which rely on hierarchical subordination for control and coordination, actors of a collaborative community are able to self-organize, achieving control and coordination via direct interaction among themselves and other infrastructural mechanisms (Haakonsson et al., 2017; Kolbjørnsrud, 2018). This form provides actors the opportunity to mutually develop capabilities and increase effectiveness, efficiency and productivity by mobilizing a wide variety of resources towards a shared purpose (Kadenic, 2017; Haakonsson et al., 2017). Successful collaboration can also reduce cost, reduce risk and enhance flexibility (Kadenic, 2017; Bollintoft et al., 2011; Fjeldstad et al., 2012). In contrast to the other new collaborative organizational forms, the underlying motives and beliefs of actors – individuals, teams, and organizations – originate with an idea of a shared collective commitment, a shared purpose, providing for a trust-based collaboration (Kadenic, 2017; Adler & Heckscher, 2018; Miles, Snow, Fjeldstad, Miles & Lettl, 2010; Adler & Heckscher, 2008). Shared purpose is more closely related to concepts such as ‘what the organization does to fulfill its purpose’ or, mission, ‘what the organization will look like if its purpose is fulfilled’ or, vision and ‘the central, enduring, and distinctive features that define who we are and what we do when in pursuit of this purpose’ or, identity (Adler & Heckscher, 2018).

Achieving this shared purpose demands a fitting organizational design. An organizational design must specify the fit between the structure and its coordination, or how

to make tasks work congruous (Burton & Obel, 2018). An effective design is made intentionally, consciously and is an iterative process, as it is a social system of coordinated action that somehow needs to solve wicked problems to deliver a societal contribution (Simons, 2005; Achterbergh & Vriens, 2019; Mohr & Dessers, 2019). New organizational forms like the collaborative community, embody new solutions to the core issues of organizing, opposed to the solutions used by traditional organizational forms. Organizational design theories have traditionally targeted the fit between structure and its coordination within the boundaries of a single organization (Scott, 2020). These tend to emphasize the division of labor and the internal differentiation and patterning of relationships in an organization. Accordingly, organizations should try to seal of their primary process and create barriers to collaborative efforts and their contingency factors (Thompson, 2003; Mintzberg, 1979). These theories associated with traditional hierarchy have failed to explain the cross-boundary collaboration we see today. While organizational design theories have contributed significantly to better understand organizations within their environment, they have been unsuccessful to incorporate a community perspective on designing for collaboration.

On the other hand, there is extensive research done on interorganizational relationships, such as joint ventures, strategic alliances, business groups and networks (Brass, Galaskiewicz, Greve & Tsai, 2004; Barringer & Harrison, 2000). Although it gives a lot off insight in what we know on collaboration, it is also still difficult to assess the potential value of these cross-boundary collaborations. Many interorganizational relationships are explored from a narrow point of view and a holistic perspective is missing (Barringer & Harrison, 2000). The majority of the research has focused on the effect that interorganizational relationships has on some type of aggregate performance measure or outcome. Even though this is helpful, these do not help to understand what makes one collaboration more effective than another (Barringer & Harrison, 2000). Perhaps even more relevant is the lack of research devoted on how these cross-boundary collaborations are managed. The literature primarily focusses on why interorganizational relationships are formed and how they are governed (Barringer & Harrison, 2000). A clearer understanding of management practices and techniques, such as organizational design, which facilitate the ongoing success of cross-boundary collaboration is essential to steer research and organizations in the right direction (Barringer & Harrison, 2000). New collaborative forms, such as the collaborative community, are challenging our notion of what cross-boundary collaboration is and how it this might achieved (Scott, 2020; Adler & Heckscher, 2006). Despite having numerous design theories

and extensive research on interorganizational relationships, there is a literature gap and a weak understanding of how to design for complex collaborations among organizations (Mohr & Dessers, 2019). Organizational designers and managers do not yet have a set of architectural design blueprints which they can draw from (Mohr & Dessers, 2019; Haakonsson et al., 2017). Without a better understanding of the complex dynamics of interorganizational collaborations it remains likely that failures will continue to exist.

§1.2 Research objective

To deal with today's societal challenges, requires a more comprehensive and effective understanding of the design of complex organizational systems, such as a collaborative community (Mohr & Dessers, 2019). Adjacent with traditional design theories this research adopts a socio-technical systems (STS) design approach to provide a better understanding for this needed framework. A STS design approach recognizes the interaction between social and technical-economic aspects. The approach refers to the interaction between society's complex infrastructures and human behavior. Society itself and most of its substructures, are in a sense complex sociotechnical systems (Mohr & Amelsvoort, 2016). More specific, this research takes a STS design perspective and attempts to examine how this might be applied in a collaborative community. Guided by a new paradigm for interorganizational collaboration and the need for a better contextualized understanding of this, my research objective is to gain understanding how to (re)design organizations for a collaborative community. Consequently, my research question is: *´Do the suggested design elements support the design of a collaborative community?*' To answer this question, this study compares an empirical organizational structure with the current understanding of STS design. It sheds light on how collaborative communities manifest and are managed in practice.

§ 1.3 Scientific and practical relevance

This research contributes to the theoretical gap between organizational design and interorganizational collaboration in our current society. Since there is no clear framework how to manage a collaborative community there is a clear scientific relevance. It gives insight into how an organization in practice puts a collaborative form of organizing into action and compares this with STS design theory. This insight might be important to gain a better understanding what theoretical framework is needed for organizational designers to correctly implement collaborative forms in practice. This research can also be valuable theory and knowledge for researchers to further explore the domain of new organizational forms of collaboration.

This research gives insight into the practical situation in which many organizations find themselves today, changing form a hierarchical way or organizing to a more collaborative of organizing. The research reflects on this situation in organizations in which they try to make a more meaningful contribution within our society. Revealing a possible match between organizing a collaborative community and the meaningful contribution.

§1.4 Thesis outline

The theoretical foundation of this research is described in the following chapter, chapter two. The purpose of this chapter is to build on organizational design theory and provide a better understanding when considering the design of a complex system for a collaborative community. A perspective on various organizational design theories, their, design parameters and essential variables, provide a better understanding of how to organize within organizations. When designing for a collaborative community, cross-boundary collaboration is required. Therefore literature on networks, ecosystems, and collaborative communities are explored in the next section of chapter two. The last paragraph is based on preceding paragraphs and seeks to present a perspective on essential elements of a collaborative community. In chapter three the methodology of this research is explained. Data will be collected through a multiple case study. Ethical considerations are also addressed to ensure research integrity. The results of the data analysis are presented in chapter for. Finally, chapter five will include a conclusion and discussion. This also includes theoretical and practical implications, and recommendations for further research.

Chapter Two: Theoretical Framework

The purpose of this chapter is to elaborate on organizational design theory and to provide a better understanding when thinking about the design of a complex system that fits a collaborative community. Expected is that organizations effectively need to deliver a societal contribution. To achieve this, an appropriate fit between its structure and coordination mechanisms is required. A perspective on different organizational design theories, their design parameters and essential variables, provide a better understanding on how then we organize within organizations. When designing a collaborative community there is also a need for cross-boundary collaboration, so the scope is wider than for a single organization. Literature on networks, ecosystems and collaborative communities will support this cross-boundary perspective and provide tools for the design of a collaborative community.

In the first paragraph general organizational design theories will be discussed by means of their corresponding design parameters and essential variables. A Sociotechnical Systems design approach and organizational theories of Mintzberg and Thompson are used to gain insight in different forms of organizing. In the following paragraph collaborative forms will be addressed. Theories on networks, ecosystems and collaborative communities broaden our scope to how organizations collaborate across their own boundaries. Based on these paragraphs, the last paragraph aims to provide a perspective on designing for a collaborative community. Focusing on what STS design parameters support the design of a collaborative community.

§ 2.1 Perspectives on organizational design

2.1.1 Thompson: Organizations in action

In Thompson's book 'Organizations in action' he tries to grasp what determines how and when organizations will act (2003). Organizations are expected to act reasonable or rational but uncertainties arising in their primary processes and environments prose major challenges. Organizations acting is thus affected by different uncertainties and should result in organizational behavior that is systematically different (Thompson, 2003).

Organizations act through a closed or open-system strategy. Organizations from a closed-system perspective can reliably predict all of the variables and relations, and thus can also predict future outcomes. They seek certainty by incorporating and managing only those variables that can be controlled. This perspective allows organizations to analyze problems

independent of environmental influences and uncertainties (Thompson, 2003). In contrast, in the open-system perspective uncertainty is given. The organization is subjected to the environment, needs to be adaptive and cope with unpredictability for its survival (Thompson, 2003). Both perspectives capture something essential, according to Thompson (2003) organizations are open systems that under the conditions of rationality strive for closeness. The organization copes with uncertainty by creating certain segments specifically to deal with it (adaptability) and specializing other segments in operating under conditions of (near) certainty (predictability) (Thompson, 2003).

No organization is self-sufficient and needs to maneuver themselves towards a domain and related task environment (Thompson, 2003). An organization must 'claim' their domain of organized action: a range of products, a population served, and which services are provided. The domain is the point of departure for relations with the organization's task environment (Thompson, 2003). The task environment is consisting of customers, suppliers, competitors and regulatory institutions (Thompson, 2003). Each domain and task environment is unique. Organizations will be more or less dependent on actors in the task environment and more or less powerful in its task environment dependent on its in- and output conditions. Maneuvers to defend against dependencies and maneuvers to gain power can be complex, disruptive and expensive. Thus, organizations seek to design their primary processes and design their boundaries, in order to minimize the necessity of maneuvering and compromise (Thompson, 2003). If organizations vary in design, they also got to vary in structure.

Organizational structure is a fundamental instrument of how organizations specify boundaries for their participating members and thus achieve efficiency through bounded rationality. According to Thompson (2003) structure is referred to as the internal differentiation and patterning of relationships. Structure concerns a societal system containing both human and non-human resources and must help to facilitate the coordinated action of these interdependent elements (Thompson, 2003). Three forms of interdependence describe the degree of interactions and behaviors within an organizational structure. Pooled interdependent is a loose form of interdependency, where each segment performs a completely separate function while still contributing to the same goal (Thompson, 2003). Sequential interdependence occurs when the output of a segment is the input of the next segment and so on. The last type, reciprocal interdependence has the most intensive interaction and is most difficult to coordinate. It is similar to sequential interdependence in that the output of one segment becomes the input of another, with the extension of being

cyclical (Thompson, 2003). Pooled, sequential and reciprocal primary processes are arranged according to increasing levels of dependency between the segments involved. This is relevant because increasing levels of dependency call for more costly types of coordination.

Thompson (2003) describes three types of coordination mechanisms which go with the three forms of interdependence. Pooled interdependence is coordinated by standardization, this involves the formulation of routines or rules which constrain action and requires a stable and repetitive condition. Sequential interdependence is coordinated by planning, this involves making schedules by which actions may be directed. Reciprocal interdependence is coordinated by mutual adjustment, this involves communication and handling new information during the process (Thompson, 2003). Rational organizations try to minimize their coordination costs, this can be done by departmentalization. Priority is given to grouping of processes that have a reciprocal interdependence since mutual adjustment is most expensive. While this first grouping does not entirely handle interdependence, organizations link the processes involved into higher-order groups and so introducing hierarchy. After grouping processes to minimize coordination by mutual adjustment, organizations seek to place sequentially interdependent processes to one another in a segment that is localized and autonomous. Subsequently organizations seek to cluster processes into homogeneous units to facilitate coordination by standardization (Thompson, 2003). These structural divisions delimit the coordinative complexity and are clustered in a way that the most critical aspects of an organization's interdependencies are handled (Thompson, 2003).

Organizational rationality depends on both the organization's primary processes and its task environment, these two, in turn, depend on the organization's domain. In addition to strategies with regard to their task environment, organizations also can reduce uncertainty and dependency, by means of their boundary design. Rational organizations seek to place their boundaries around those activities that are crucial contingencies and so reducing and removing uncertainties (Thompson, 2003). Dependent on the type of primary processes the organization can expand through vertical integration, the populations served, or the object worked on (Thompson, 2003).

Organizations are also an open system and dependent on elements in their task environment, these are controlled by boundary-spanning components. They can create conditions allowing them to handle uncertainty in the task environment by means of structural design. Elements of the task environment can change over time and vary from organization to organization. Generally, organizations find their environmental constraints with respect to

geographic space or the social composition. Where boundary contingencies or internal interdependencies are abundant, organizations need bounded rationality and structural decentralization for handling uncertainties (Thompson, 2003). Whatever the ultimate conceptualization of the task environment and primary process, it seems clear that complex organizations exist as agencies of their environment and that there is a need to incorporate patterns that are institutionalized within cultures and society (Thompson, 2003).

2.1.2 Mintzberg: Designing effective organizations

According to Mintzberg (1989) every human activity raises two fundamental and opposing requirements, the division of labor into tasks and the coordination of these tasks to achieve their goal. Organizational structure gives organizations the form to achieve these goals and its function in the environment. The organizational structure is simply the way in which an organization divides its labor into distinct tasks and coordinates them (Mintzberg, 1989). Organizations can be characterized along three basic dimensions. The key parts of the organization, the main coordination mechanisms and the type of design parameters used. Organizational structuring can be better understood through the combination of these dimensions and result in five basic ideal types of structural configurations (Mintzberg, 1979).

To understand this, it is useful to first lay out the key parts of the organization and the main coordination mechanism used to coordinate an organization. There are five key parts of an organization that play a major role in determining the success of this organization. The ‘strategic apex’ consisting of its top management and their staff who are charged with the overall responsibility. The ‘operating core,’ consisting of all employees who actually carry out the organization’s tasks, producing basic products and services. The ‘middle line,’ consisting of the middle- and lower-level management, operating between the strategic apex and the operating core. The ‘technostructure,’ consisting of analysts outside the formal line structure, establishing certain forms of standardization in the organization. And lastly, the ‘support staff,’ consisting of those that provide indirect support to the rest of the organization (Mintzberg, 1979). The five key parts of the organization can be composed in different ways to form an organizational structure that fits the environment. Organizational structuring focuses on the division of labor into a number of distinct tasks.

A second basic dimension, coordination, connects these tasks to achieve the organizations goals in a unified way (Mintzberg, 1979). Five main coordinating mechanisms seem to fall into a rough order, as work becomes more complicated the favored coordination

mechanisms seems to shift (Mintzberg, 1989). 'Mutual adjustment' achieves the coordination of work by informal communication. 'Direct supervision' achieves coordination by having one individual take responsibility for the work of others, issuing orders and monitoring actions. Work can also be coordinated without mutual adjustment or direct supervision, it can be 'standardized.' Standardization is the process of implementing and developing technical standards based on the consensus of different parties. The last three coordination magnetisms include 'standardization of work process,' 'standardization of outputs' and 'standardization of skills' (Mintzberg, 1989).

Design parameters are the basic mechanisms organizations are able to use to design their structures. Mintzberg (1979) discusses eight design parameters that effect the division of labor and coordination, namely: 'job specialization', 'behavior formalization', 'training and indoctrination', 'unit grouping', 'unit size', 'planning and control systems', 'liaison devices' and 'vertical & horizontal decentralization'. The design parameters seek to break structure down into its essential parts, rather than putting it together as an integrated whole (Mintzberg, 1989). Organizational structures are designed by combining these parameters in several ways. Effective structuring requires an internal consistency among these design parameters, called the configuration hypothesis (Mintzberg, 1979). Contingency factors, organizational states or conditions, are also associated with a certain combination of particular design parameters. Conditions like, the age and size of the organization; the technical system it uses in its operating core; various aspects of its environment; and certain power relationships, influence the congruence of these parameters (Mintzberg, 1979, 1989). According to the congruence hypothesis an effective organizational structure reaches high levels of complementarities, requiring an external fit between the design parameters and the contingency factors.

Effectively the key part, the main coordination mechanism and the type of decentralization, result in five basic ideal types of structural configurations according to Mintzberg (1979). First, 'the simple structure,' it tends to be simple and dynamic, and it's mainly used in entrepreneurial and small corporations. Second, 'the machine bureaucracy,' it operates in environments that are both simple and stable. Mass production firms or large government agencies are typical examples. Third, 'the professional bureaucracy,' it tends to appear in an environment that is both complex and stable, like universities and hospitals. Fourth, 'the divisionalized form,' it is a superimposition of one structure on others (Mintzberg, 1979). Large corporations are likely to adopt the divisionalized form and is a common structural response to an integrated machine bureaucracy that has diversified its

portfolio (Lunenburg, 2012). Fifth, 'the adhocracy,' it is positioned in environments that are both dynamic and complex. Adhocracies are highly organic, they engage in non-routine tasks and their primary goal is innovation and rapid response to changing environments (Lunenburg, 2012).

2.1.3 Sociotechnical systems design

In the past decade, a lot of variations of the original STS-D theory and practice have found their origin which gives a lot of new perspectives. In this development there are three waves of STS-D. The first wave is about the design of more or less routine work (mainly in manufacturing processes), the second is about non-routine work (of knowledge workers), and the third is about designing issue-based ecosystems and value network realization (Mohr & Amelsvoort, 2016). In this research the focus is on this third wave and a lowlands STS-D approach, where the (re)design is not aimed at the joint optimization but at the integral design of an entity. According to Mohr & Amelsvoort (2016) the goal of all STS-D based analysis and (re)design is: the creation of entity's that are adaptive, innovative, good to work in, and efficient as measured by human, economic and societal metrics.

De Sitter, who introduced the lowlands STS-D approach, argues that any organizational design should start off with a set of choices made around the reduction of structural complexity and increase the flow capabilities, making an organizational structure simple and creating meaningful jobs to deal with environmental uncertainty (De Sitter, Den Hertog & Dankbaar, 1997; Mohr & Amelsvoort, 2016). The structure can be defined as 'a network of related tasks' and consists of two sub-structures, the production structure and the control structure (Achterbergh & Vriens, 2010; De Sitter, Den Hertog & Dankbaar, 1997). The production structure is the grouping and coupling of operational transformations into tasks. The control structure is the grouping and coupling of regulatory transformations into tasks (Achterbergh & Vriens, 2010). The configuration of these tasks should be designed in such a way that it attenuates disturbances as much as possible and, at the same time, amplifies the regulatory capacity to deal with the remaining disturbances (Achterbergh & Vriens, 2010).

De Sitter's theory elaborates further on organizational structures by incorporating relevant organizational variables, called functional requirements. He distinguishes between external and internal functional requirements, both should be met in order to have an adequate organizational structure (Achterbergh & Vriens, 2010). External functional requirements are set in order to secure the organization's viability in its business environment and internal

functional requirements are being derived from these external requirements. De Sitter specifies the functional requirements into three categories: the quality of organization, the quality of working relations, and the quality of work (Achterbergh & Vriens, 2010). The quality of organization refers to an organization's potential to realize and adapt its goals effectively and efficiently (Achterbergh & Vriens, 2010). Corresponding external functional requirements in this category are 'order flexibility,' 'control over order realization', and 'potential for innovation'. These can be translated into internal functional requirements like: short production time, sufficient product variations, a variable mix of products, reliable production and production time and effective quality control. The quality of work is about the meaningfulness of jobs and the possibility to deal with work related stress (Achterbergh & Vriens, 2010). Translated to requirements it is about enhancing the quality of working life by taking measures to reduce the level of absenteeism, and give opportunities to be involved, learn and develop. The quality of working relations refers to the effectiveness of communication in organizations, this plays a key role in supporting a shared responsibility and improves participation (Achterbergh & Vriens, 2010). So, it is the task of the designer to design an organizational structure that supports all these requirements at the same time. The overall adequacy of an organizational structure should therefore be evaluated in terms of its potential to contribute to satisfying all internal, and therefore all external requirements (Achterbergh & Vriens, 2010).

The functional requirements express the desired effect of organizational structures, namely, attenuation of disturbances and amplification of regulatory capacity. However, it has not become clear how structures should actually be designed. De Sitter considers seven design parameters for designing the production and the control structure of an organization. All of these parameters need to have a low value, this leads to high essential variables and so an adequate organizational structure (Achterbergh & Vriens, 2010). Parameters describing the production structure are:

Parameter 1 'The level of functional concertation': the grouping of operational tasks with respect to orders. A minimum value on this parameter means that all operational tasks required to realize an order are grouped together in one production flow.

Parameter 2 'The level of differentiation of operational transformations': the grouping of operational sub-transformations, 'preparing', 'making' and 'supporting', with respect to an order. A minimal value means that operational tasks contain all three sub-transformations.

Parameter 3 ‘The level of specialization of operational transformations’: how much are operational transformations split up into smaller transformations. Specialization increases if operational transformations become more specialized, it decreases as sub-transformations are integrated into one task. Desired is to create complete tasks.

Parameter 4 ‘The level of separation between operational and regulatory transformations’: the grouping of operational and regulatory transformations. It is minimal if a task consists out of both regulatory and operational sub-transformations.

Parameters describing the control structure are:

Parameter 5 ‘The level of differentiation of regulatory transformations into aspects’: the grouping of regulatory aspects: strategic regulation, regulation by design and operational regulation. The level of differentiation is minimal if these forms of regulation are combined into one task.

Parameter 6 ‘The level of differentiation of regulatory transformations into parts’: the grouping of regulatory parts: monitoring, assessing and acting. The level of differentiation is minimal if these forms of regulation are combined into one task.

Parameter 7 ‘The level of specialization of regulatory transformations’: how much are regulatory transformations split up into smaller transformations. Specialization increases if regulatory transformations become more specialized, it decreases as sub-transformations are integrated into one task. Desired is to create complete tasks.

The STS-design provides these parameters that can be used and developed into a more comprehensive framework for analyzing, designing and changing whole organizations, networks and even ecosystems in an integrated manner (Mohr & Amelsvoort, 2016). With low parameter values the organizational structure becomes simpler and creates meaningful jobs. STD-design provides an adequate theory of how entity’s function internally in relation to their environment (Mohr & Amelsvoort, 2016).

2.1.4 Lessons learned

The different organizational design theories presented in this chapter provide a better understanding of how complex systems like organizations could be designed. They all formulate a solution to the design problem of an appropriate fit between its structure and coordination mechanisms. Despite different perspectives and focus on a single entity, they all provide useful theory in how we should design for a collaborative community. Table 1 gives

an overview of the parameters, essential variables and the relationship between them to make a clear distinction between the three design theories.

	Thompson	**Mintzberg**	**STS-Design**
Parameters (P)	Allocating activities to capacities 1 Degree of grouping reciprocal interdependent activities 2 Degree of grouping sequential interdependent activities 3 Degree of grouping pooled interdependent activities 4 Degree to which uncertain activities are incorporated into the primary process 5 Degree in which divisions are related to constraints in the task environment	1 Job specialization 2 Formalization of behavior 3 Training & Indoctrination 4 Unit grouping 5 Unit Size 6 Planning & Control Systems 7 Liaison Devices 8 Vertical & Horizontal (de)centralization	1 Functional concentration 2 Differentiation of operational tasks 3 Specialization of operational tasks 4 Separation of regulatory and operational activities 5 Differentiation of regulatory activities into aspects 6 Differentiation of regulatory activities into parts 7 The specialization of regulatory activities
Essential variables (EV)	Lowering coordination costs Balancing between adaptability and predictability	Effectiveness	Quality of the organization Quality of work Quality of working relations
Relation between P and EV	Essential variables benefit from the grouping of activities	Creating an internal, as well as an external fit	The lower the value of the parameter, the better an organization can fulfill their essential variables

Table 1 Overview organizational design theories

The theory of Mintzberg is applicable in a broad variety of organization and is useful for an organizational diagnosis. He also taught us that organizational structures are not only determined by the way in which processes are split into tasks, but also by the way those tasks are coordinated (Mohr & Dessers, 2019). Unfortunately, the theory does not provide specific parameters for designing an organizational structure, these parameters have a more descriptive nature. Mintzberg suggests ideal configurations but does not provide an obvious way of achieving these. Furthermore, most configurations do not seem to fit the need for a collaborative organizational form since they rely on a hierarchical subordination for control and coordination (Kolbjørnsrud, 2018). Thompson as well as the STS-design argue that the structure of an organization should be as simple as possible, they try to reduce complexity and the need for coordination. The design parameters of the STS-design should have a low value and therefor reduce the possibility of disturbances within the structure. Thompson groups interdependencies in different ways to lower coordination and therefore lowering coordination costs. STS-design, arguably, provides the most explicit parameters, essential variables and the relation between both. The clear representation and explanation of the STS-design provides the most useful perspective for designing a collaborative community. When designing a collaborative community, the focus will thus be on a STS-design approach but being mindful of essential elements in the other theories.

§ 2.2 Exploring collaboration

When designing a collaborative community there is also a need for collaboration, namely, the scope is wider than for a single organization and it is becoming the way that work gets done (Kenis & Raab, 2020). Traditional organizational design theory does not cover collaboration as we see it today. Collaboration among organizations is not simply a process that can be overlaid across any organizational context, it rather needs a supportive system, community or design (Scott, 2020). Primarily collaboration is the practice of three or more organizations working together beyond any organizational boundary (Bedwell et al., 2012; Provan & Kenis, 2008). Whatever the configuration of the collaboration, it is widely agreed that collaborative efforts are aimed at generating value that cannot be accomplished by organizations working independently (Edmondson, 2012; Scott, 2020). Collaborative efforts respond together while focusing, accessing and integrating the right expertise to achieve a desired outcome (Scott, 2020). Traditionally collaborative structures have emphasized permanence to benefit from collaborative strategic and operational choices agreed upon (Edmondson, 2012). As the nature of work is fundamentally changing – becoming more complex, dynamic, highly interconnected and knowledge based – it follows that collaborative arrangements must dynamically evolve alongside to meet evolving needs. Networks, ecosystems and collaborative communities are organizational forms with their own characteristics that are a helpful in designing these collaborative efforts. In this paragraph these three different forms are addressed.

2.2.1 Networks

Organizational networks have been widely recognized by scholars and practitioners as an important form of how organizations collaborate (Provan & Kenis, 2008). These organizational networks provide combined inputs form different organizations needed to tackle a wicked problem or a service and go beyond formal contracts to facilitate relationships (Raab & Kenis, 2009; Raab, Lemaire & Provan, 2013). Inter-organizational networks and consortia are no new phenomena but last decades there has been an increasing number and importance of networks since organizations are increasingly linked on a global scale (Raab & Kenis, 2009). Advantages of organizational networks in both public and private sectors are substantial, including a more efficient use of resources, better at addressing problems, being more competitive, enhanced services and improved learning capacity (Provan & Kenis, 2008). Networks can be defined as a consciously created group of three or more autonomous but

dependent organizations that strive to achieve a common goal and jointly produce an output (Raab & Kenis, 2009). The type of network discussed here is goal driven and develops a collective identity, regardless whether a network results from the bottom-up or is a product of strategic decisions, it is not a serendipitous network (Provan & Kenis, 2008). Raab & Kenis (2009) characterize this as a 'network for itself' and claim that this type becomes the dominant form in the future, replacing the formal hierarchical organizations we know today.

As organizations and networks for themselves are both goal driven and bounded social systems, they also form an identity that follows similar patterns. Agents working as representatives of their organizations with colleagues from other organizations form some kind of common identity across organizational boundaries (Raab & Kenis, 2009). This identity can be seen as a structural property that emerges from collaborative practices. It refers to the network as a whole, focusing on the essence of the network, the distinctiveness to other networks, and forming a more or less enduring character (Raab & Kenis, 2009). The structural properties institutionalize through coordination and control mechanisms over time in beliefs what the network is about. In contrast with a single organization, a network identity is formed across three levels (individual, organizational and network), instead of two, increasing overall complexity. If successful, these identities should overlap to a certain degree and should show some sense of belonging and identification with the network output, these determine the network boundaries (Raab & Kenis, 2009).

Generally, networks have a temporal character and dissolve at a certain date or after reaching the previously set goal. However, organizations as well as individuals often work together repeatedly in changing configurations that are adjusted to new needs. Issues such as performance, governance and control have also become central issues for networks to ensure that participants engage in a collective mutually supportive action, that conflict is addressed, and that network resources are acquired and utilized efficiently and effectively (Raab & Kenis, 2009; Provan & Kenis, 2008). Collaboration in networks seem to be the response to failures of the markets and failures of hierarchical coordination and societal technological developments (Provan & Kenis, 2008). This social form of organization needs to be treated as a discrete form of governance that can produce positive outcomes that would not be possible in a market, hierarchy, or a market-hierarchy hybrid form. The structural patterns of relations can also vary among networks and result in different configurations and conditions for effectiveness. The role of management is critical for this effectiveness, especially regarding the handling of tensions inherent in each governance form.

Firstly, Provan and Kenis (2008) propose three ideal types of network governance. First, the participant-governed network where all network members jointly govern the network. Second, the lead organization-governed network, where one of the networks organizations takes the lead. Third, the network administrative organization, a separate neutral organization is installed to coordinate and monitor the network. Further, Provan and Kenis (2008) argue that there are four critical contingencies that can explain whether or not a particular form of network governance is likely to be effective: trust, size, goal consensus and the nature of the task. Trust becomes less dispersed throughout the network as the number of participants get larger, as network goal consensus decreases, and as the need for network-level competencies increases (Provan & Kenis, 2008). Lead organization and network administrative organization networks become more effective than shared governance when trust is less dispersed (Provan & Kenis, 2008). Lastly, network governance is inherently characterized by three basic tensions that cannot be resolved but only managed. There are tensions between efficiency and inclusiveness, between internal and external legitimacy, and between stability and flexibility. How these tensions are managed is crucial for the effectiveness of the network (Provan & Kenis, 2008).

2.2.2 Ecosystems

The desired level of integration cannot always be reached at the level of a single organization or network (Mohr & Dessers, 2019). The level of integration that is needed will depend on the specific needs of a multilateral set of partners and the implied level of interdependence between these partners (Mohr & Dessers, 2019; Adner, 2017). Ecosystems emerge as a distinct organizational model of value creation that enables these multilateral set of partners to coordinate at the level of integration that is needed (Jacobides, Cennamo & Gawer, 2018; Adner, 2017). Kelly (2015) defines ecosystems as *'dynamic and co-evolving communities of diverse actors who create and capture new value through both collaboration and competition'* (p. 5). This definition allows for diversity among actors and also the creation of value not only by collaboration but also by competition (Morh & Dessers, 2019; Kelly, 2015). Actors, often also including customers, are bound by some combination of shared interests, purpose, and values. This motivates the actors to collectively nurture, sustain, and protect the ecosystem as a shared goal (Kelly, 2015). Adner (2016) offers a slightly different definition of an ecosystem, *'the alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize'* (p. 42). Also, in this definition an ecosystem should exists out of multiple actors who have a shared consensus, these cannot be

broken down into just bilateral interactions. Membership of the ecosystem is defined, it is not open-ended. This does not mean it is complete and cannot vary or be challenged. The value proposition is situated at the basis as it creates the internal boundaries required for an ecosystem but also creates expectations of value creation and distribution to third parties (Adner, 2017).

Both definitions give a more adequate understanding what an ecosystem entails but there is a need for a better understanding how organizations are connected via a structure of interdependence. The structure is a composition of elements that underlie the value proposition, the alignment between the partners and elements, the position of partners with respect to the flow of activities, and the connection between the elements with respect to the value proposition (Adner, 2017; Gano, Kapoor & Lee, 2020). Adner (2016) refers to this as 'the ecosystem-as-structure' and distinguishes it from 'the ecosystem-as-affiliation' in which the emphasis is on actors who share a common affiliation. This perspective emphasizes the breakdown of boundaries and the rise of interdependence. The focus is much more on a main actor, increasing its centrality by attracting and retaining others while exercising control and power to gain value (Adner, 2017; Gano et al., 2020). The ecosystem-as-structure perspective offers a premise that organizations in an ecosystem can draw on a pool of elements produced by other organizations for recognizing novel combinations, and that they can optimize this in light of an efficient combined contribution to the value proposition (Gano et al., 2020).

Ecosystems help to coordinate interrelated organizations that have a significant autonomy, this is enabled by a modular architecture (Jacobides et al., 2018). Jacobides et al., (2018) argue a certain degree of modularity is required for ecosystems to emerge, function and coordinate without full hierarchical fiat. A modular system has an open, rather than a closed structure. Modularity focuses on the architectural design of a system in terms of 'thin crossing points', this allows interdepend components of a system to be produced by different organizations with limited coordination required (Jacobides et al. 2018; Gano et al., 2020). Without some common standards the combination of components across organizations may not be feasible (Gano et al., 2020). Furthermore, modularity may be necessary but is not sufficient. There must also be a significant need for coordination that cannot be dealt with by hierarchy, or markets. Ecosystems offer a distinctive form both because of their structure and because of the way in which they allow for coordination problems to be solved (Jacobides et al., 2018). Ecosystems are a set of actors with varying degrees of multilateral, non-generic complementarities that can be contained and coordinated without the need for vertical

integration. Non-generic complementarities link these different organizations together which lead to some degree of co-specialization that make ecosystems distinct (Jacobides et al., 2018). Because of these complementarities, connecting to an ecosystem is concerned with some investment that is not compatible and thus cannot be used elsewhere without cost. The value, rarity and inimitability of resources is thus at the heart of ecosystems strategy and influences the emergence, evolution and success (Jacobides et al., 2018; Adner, 2017).

2.2.3 Collaborative community

As mentioned earlier in this thesis the focus in on a new collaborative organizational form, a collaborative community. The collaborative community is an organizational form that enables actors to collaboratively solve problems and share knowledge using commonly held resources to accomplish a shared purpose in a continuous manner (Haakonsson et al., 2017; Kolbjørnsrud, 2018). A collaborative community design enables a group of participants to integrate their contributions in a self-organizing fashion, implying that they accomplish coordination and control primarily via direct interaction among themselves rather than by hierarchical subordination. Work is characterized by self-assignment to tasks and common-based peer production (Kolbjørnsrud, 2018). Though shared values and norms, actors know what they can expect from fellow community members, providing the basis for trust-based collaboration (Adler et al. 2008). Adler and Heckscher (2006) offer a collaborative community as a distinctive form of organizing opposed to hierarchies and markets. Whereas hierarchies are built for coordination to achieve pre-set goals from layers above, and markets for independent actors to optimize exchange-based gains, only communities, they argue, are designed to promote self-organizing efforts around a shared purpose and collective outcomes (Scott, 2020).

The collaborative community is probably closer related with the networks and ecosystems described above. Four characteristics proposed by Seidel and Stewart (2011) define the architecture of the collaborative community, which make this relatedness more clear, namely: (1) fluid, informal boundaries near the periphery, where all who contribute to its output are a member, (2) does not provide its members legal employment contracts but contribution is based on reputation building, intrinsic motivation or voluntarism, (3) output is characterized by the production of information, knowledge and services, less on hard goods (4) built around an open sharing of ideas and knowledge both within the organization as outside of it. Not only the architecture differs from other organizational design frameworks but also some basic social-technical elements. These are ‘a shared purpose for guidance’, ‘a

sense of belonging', 'a set of integrating mechanisms', 'authority, participative centralization', and 'capabilities and competence' (Adler & Heckscher, 2018; Scott, 2020).

A shared purpose is at the foundational of the collaborative community based on the belief that community forms as people work together to create shared value (Adler & Heckscher, 2018; Scott, 2020). Contributing to the achievement of the organization's purpose is the most important virtue. The salience of this virtue can motivate and guide the decision-making (Adler & Heckscher, 2018). Two complementary techniques support the value-rational collaboration in complex organizations. First, both end goals and means for achieving them remain subject to discussion based on public, discursive standards of validity, rather than reverting to bureaucratic authority, traditionalistic status, or charismatic leadership (Adler & Heckscher, 2018). Thus, the values might evolve in time. Second, this helps focus internal discussions to the collective cause, which is continuously enriched as collaborators tackle challenges, make decisions, and learn from their actions (Adler & Heckscher, 2018; Scott 2020).

Alongside a shared purpose, share value sets the foundation for how people contribute and instills a sense of belonging in the community (Adler & Heckscher, 2018; Snow, Fjeldstad, Letl, & Miles, 2011; Scott, 2020). A sense of belonging, also an ethic contribution, builds from a communal sense of trust that others are willing and able to help, it encourages people to engage beyond formal roles and support others for the common good (Scott, 2020). Trust lies within a wider social context as a communal ethic, or moral responsibility, to rely on each other (Adler & Heckscher, 2018).

To scale up value-rational action successfully a set of integrating mechanisms of linking and aligning people within and across projects is needed while avoiding goal displacement (Adler & Heckscher, 2018). Interactive processes provide a set of community designed tools, technologies and roles for shaping work approaches and aligning efforts, including protocols for communicating, process-mapping, and decision-making. These tools should be designed to support dialog aimed at the determining how the shared purpose can be best pursued. The tools themselves should then be the product of a dialog aimed at deciding which tools might best achieve this goal (Adler & Heckscher, 2018). This formalization generates a normative system that is both informal as formalized, rather enabling than coercive or imposed.

Large, complex collaborative organizations who are managed by trust and self-organization still require a form of centralization to make at least some decisions. Adler and Heckscher (2018) propose this form of authority as participative centralization. Authority is both centralized to core roles so that work efforts can be coordinated and spread, and also participative, so that authority flows to those who are best positioned to contribute (Adler & Hecksher, 2018; Scott, 2020). Where centralization and autonomy are in a trade-off relation, centralization and participation are better conceptualized as separate dimensions of authority. In the collaborative organization there is a significant centralization, as well as participation (Adler & Heckscher, 2018).

The final element of the collaborative community concerns the deliberate design of human resources practices to select for a specific set of competencies and social skills. To be able to contribute beyond their core competencies there is a need for T-shaped skills (Adler & Heckscher, 2018). T-shaped skills promote both an area of expertise and also a broad understanding in how one's expertise relates and fits others (Scott, 2020). Such a common ground facilitates the learning from others and the collaboration with others. This area of expertise needs to be supported by social skills to enable effective cross-functional teamwork (Adler & Heckscher, 2018).

2.2.4 Comparing collaborative efforts

Now that these different collaborative forms are defined, the question may arise as how this collaborative community is different from networks and ecosystems. In Table 2 the main differences between these collaborative forms are summarized.

	Network	**Ecosystem**	**Collaborative community**
Purpose	Well-defined, goal-directed	General, framed purpose Proposed value proposition to materialize	Value-rational-based Shared purpose & collective outcomes
Composition	Formal membership Intentional collaboration	No formal membership Not intentionally created, 'always already there'	Fluid membership Based on reputation building, intrinsic motivation or voluntarism
Integration	Collaboration Dependence	Collaboration & competition; Independence & Dependence Modularity	Trust-based collaboration Interdependence Open knowledge sharing T-shaped skills
Governance	Participant-governed Lead organization-governed Network administrative	Defined by a focal firm or ecosystem leader	Participative centralization Trust, norms of reciprocity, shared values and commitment to the common goal Self-organization

Table 2 Comparison of network, ecosystem and community characteristics based on Mohr & Dessers (2019).

As can be read in previous sections the purpose of the collaborative forms differs significantly. A network has a well-defined purpose and is aimed at delivering added value to a specific goal. An ecosystem is defined in terms of a framed purpose, this is of a more general nature and is a way of combining actors towards a more generic value proposition that needs to materialize (Morh & Dessers, 2019). In a collaborative community value rationality provides the base for a shared purpose and a shared commitment to a collective outcome (Adler & Heckscher, 2018).

A network is a consciously created group of organizations that strive to achieve a common goal. The membership of a network is thus defined and not open-ended (Kenis & Raab, 2020). An ecosystem is not the result of intentional effort and has no formal membership, it is always already existing in the environment. This is, whether or not, the actors within this ecosystem consider themselves and others as a part of that ecosystem (Mohr & Dessers, 2019). A collaborative community is rather a social unit of people to meet a need or pursuing a collective goal (Burton & Obel, 2018). It is based on a fluid membership as people come and go, contributing where needed. Actors choose to contribute to the value proposition as a result of reputation building, intrinsic motivation or voluntarism (Adler & Heckscher, 2018).

The emphasis placed on competition and cooperation differs between networks, ecosystems and also collaborative communities. While networks are strictly cooperative, ecosystems induce both competition and cooperation. Actors within a network are dependent on other actors within the network. For ecosystems collaboration is also the dominant form for integration. A collaborative community, in contrast with networks this is more trust-based instead of a contract-based collaboration. Furthermore, in ecosystems and a collaborative community interdependence and a shared fate are key elements. Interdependence is an enabler for knowledge sharing and cooperative knowledge creation. Distinct from networks, ecosystems and collaborative communities have additional forms of integration, these are integrated by modularity. A collaborative community builds around an open sharing of ideas and knowledge, both within the organization as outside of it. T-shaped skills facilitate the emergence of a common ground, combining a broad knowledge with in-depth knowledge (Adler & Heckscher, 2018).

As mentioned in previous section on networks there are three ideal types of network governance: participant-governed, lead organization-governed and by a network administrative organization. Some form of governance is necessary within networks to ensure

that participants engage in collective and mutually supportive action, that conflict is addressed and that network resources are used effectively and efficiently (Mohr & Dessers, 2019). An ecosystem does not have a governance structure at a macro level of the ecosystem. Even if a certain ecosystem has a focal firm or ecosystem leader, it is still unlikely that it can prescribe the rules to the extent that a central actor in a network could (Mohr & Dessers, 2019). In a collaborative community authority is both centralized and participative. It relies heavily on trust, norms of reciprocity, shared values and a commitment to the common good (Haakonsson et al., 2017). The authority flows to those recognized as being the best positioned to contribute to the shared purpose of the organization. Authority is approved from below, not delegated from above (Adler & Heckscher, 2018). In addition, a collaborative community also requires a lot of self-organization by collectivity.

§ 2.3 Design for collaboration

As already argued, the organizational environment is fundamentally changing and there is a need for more insights and understanding in designing collaborative organizations. The collaborative community is a new organizational form that can facilitate collaboration among multiple organizations. Opposed to traditional organizations, which rely on hierarchical subordination for control and coordination, actors within a collaborative community act to solve problems and share knowledge in light of a shared purpose. In working towards this shared purpose, a set of multiple, often traditionally structured, organizations need to combine their resources and competencies. Generally, these organizations call for control and mutual coordination, fundamentally leading to a high complexity from the start. To enjoy the benefits of a collaborative community, or any organization, there should be a low structural complexity creating a simple structure. The collaborative community needs to reduce internal control and coordination and add value by bundling activities which constitute to a collective goal in some form. Each collaborative community has its own shared purpose, with a unique set of multilateral actors and fluid informal boundaries. Being self-managing and even self-structuring or self-organizing. Can a collaborative community still be designed then and is there a need for it? Yes, each collaborative community still needs to solve the grouping, coupling, disintegration and regrouping into tasks (Kuipers, Amelsvoort & Kramer, 2018). Mohr and Dessers (2019) have applied similar specifications to ecosystems, they seem to be useful as a starting point. Some high leverage elements and design specifications for a collaborative community will be made clear in this paragraph.

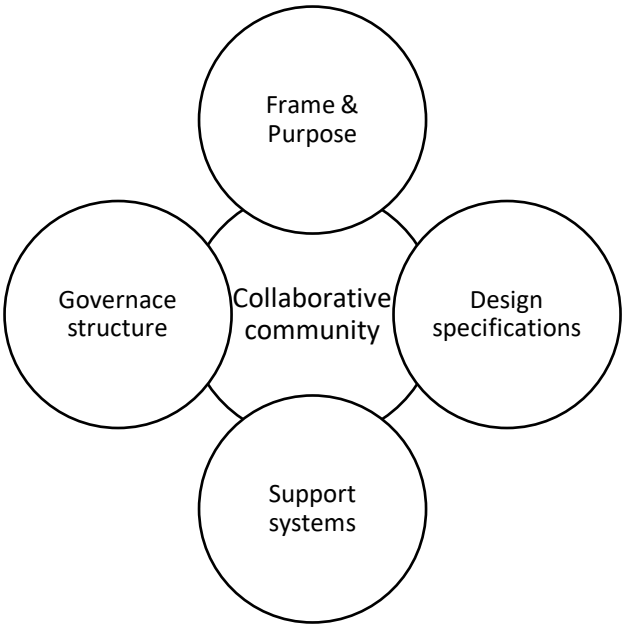

Figure 1: Elements of a collaborative community

A Frame & Shared purpose

The design of a collaborative community starts with the reflecting on the purpose of the community in light of the desired value proposition. Generally, the collaborative community needs to account for the geographic space or the social composition of the environment. Therefore, the first step is to frame the collaborative community in terms of its purpose in

relation to a certain environment and value proposition. This framing is necessary in order to better understand the way in which the purpose could be achieved, or which intervention is needed to improve the functioning of the collaborative community in the context of the stated value proposition. Further, this needs to be a shared purpose. A shared purpose is at the foundation of a collaborative community and forms shared values and norms, providing the bases for trust-based collaboration (Adler & Heckscher, 2018). While collaborative communities often operate in complex, knowledge-intensive and dynamic environments, their boundaries are fluid and informal. Some actors will be central, as others just contribute temporary to the cause. So, actors must be aware, while framing, that the boundaries constantly shift.

Design specifications

A formal structure, structure-bound rules and procedures are hardly present in a collaborative community. It is rather capable of creating a fluid structure in such a way that it does not obstruct in the search for, and creation of, opportunities without committing to formal coordination efforts (Kuipers et al., 2018). The dynamic and unpredictable environment requires an internal structure with just as much variation as the variation in the environment. Depending on initiatives, interests and talents, and depending on the activities that contribute to the shared purpose, this 'structureless' collaboration creates time and again different combinations of actors and resources (Kuipers et al., 2018). However, a completely 'structureless' organization does not exist just because it would dissolve in the environment. So, to support a collaborative design the aim is to increase the chance of productive interactions among actors through some structural characteristics. Since it is impossible and impractical to make a specific structural design for every individual case, it is crucial to identify structural characteristics for a well-functioning organization. In this thesis these characteristics are described in terms of de Sitter's seven design parameters (See Chapter 2.1.3). It is suggested that structures with low parameter values result organizations that function well (Achterbergh & Vriens, 2019). Opposed to traditional organizations, a collaborative community requires fundamentally different beliefs about the functioning of organizations. Alterations to the seven design parameters mentioned could result in a more fitting framework.

Support systems

An important principle is that the organizations supporting systems must be consistent with the structure of the organization. In a collaborative community these systems can stimulate the exchange of information, but also ensure a relation of trust between the actors of the community (Koljornsrund, 2018; Kuipers et al., 2018). Of special importance is the development of supporting systems that facilitate the mutual contact and exchange of knowledge. Knowledge cannot be managed, but knowledge management systems can facilitate it by improving the quality of the learning environment (Kuipers et al., 2018). The following measures can be considered to promote a better relation and facilitate knowledge exchange:

Facilities and tools. Thresholds can be literally and figuratively lowered in the spatial planning of the built environment. The right facilities and tools needed to carry out the activities may stimulate integration.

Open information systems. Through open information systems, accessible to everyone, the actors have more autonomy, this can improve self-organization. This also makes it possible to bring a group of actors together virtually, facilitating knowledge creation and more.

Human resource systems. These systems take care of developing, rewarding, compensating, and guiding actors within the collaborative community. Often new competencies are required to work in a collaborative way. Currently a lot of professionals are often largely educated monodisciplinary, working within a collaborative community asks for T-shaped skills and being multidisciplinary. While generally not under contract within the community, actors need to be aware how contribution is rewarded or compensated, financially or non-financially.

Informal encounters. Usually, the informal encounters of formal meetings or courses are seen as extremely useful. These moments offer good opportunities to meet and strengthen the relationship. Moreover, cohesion and common interest are created in a casual and natural way, contributing to a shared purpose.

Governance structure

In the concept of value-rational action, within a collaborative community, seems to preclude a role for centralized authority, since each actor decides on their course autonomously as they are committed to the ultimate values rather than anyone's command. Still organizations require at least some centralization of decisions. The collaborative community meets this by providing the flow of authority to those recognized as being the best positioned to contribute to the shared purpose of the organization (Adler & Heckscher, 2018). Under participative

centralization the degree of centralization is decided participative and where authority is centralized, it still functions in a participative manner (Adler & Heckscher, 2018). This requires not only mutual adjustment but also self-organization. In self-organization, vertical coordination and supervision are largely replaced by horizontal coordination. The actors themselves play an important role in leading the collaborative community (Kuipers et al., 2018). As the core of collaboration is based on a psychological contract, underlying trust, mutual understanding and shared norms and values, minimal critical specification is required. Only essential matters are recorded contractually, further it relies on trust and a commitment to the common good (Kuipers et al., 2018; Haakonsson et al., 2017).

Chapter Three: Research methods

This chapter will describe the methodology used to answer the research question: *´Do the suggested design elements support the design of a collaborative community?*' First, the research strategy will be explained followed by the case description and research setting. Second, a description of data collection, research quality and data analysis. Lastly, the research ethics will be discussed.

§ 3.1 Research approach

This study aims to contribute to the need for a better contextualized understanding of collaboration among actors or organizations. The objective is to gain a better understanding how the suggested design elements, proposed in the last paragraph, support the design of a collaborative community. There is much literature available about design of a single organization and also about networking between organizations. When combined, these theories present some design elements that can be tested though deductive reasoning. According to Bleijenberg (2015), in deductive research, a research objective is approached using a well-defined theoretical framework. Certain empirical data is examined using the proposed design elements. According to Doorewaard en Kil (2015), the deductive technique allows the researcher to precisely specify dimensions and characteristics of the ideas that are crucial to the study. This operationalization enables the researcher to acquire effective insight into complicated phenomena since the researcher understands different aspects of the ideas prior to gathering data. As a result, the deductive research technique enables the researcher to investigate the phenomena while being guided by the theoretical framework. All aspects of the key elements and their relationships can so be explored.

A qualitative reach method was used to achieve this objective. Qualitative research explores the meaning of people's motivations, expectations, and how people view a particular issue (Elkatawneh, 2016). Qualitative research can be used for explorative research to generate new theories, and it is suitable when little is known about a topic (Antwi & Hamza, 2015). As already mentioned, little is known about the gap between organizational design and interorganizational collaboration in our society. There is no clear framework that gives insight how an organization should put a collaborative organizational form into action. Therefore, a qualitative research approach is best suitable, since the strength of qualitative research is to provide new insights and to find general assumptions on the relations between concepts (Bleijenbergh, 2015). In contrast, a quantitative research design emphasizes on testing a

hypothesis and measuring variables to gather hard data (Antwi & Hamza, 2015). This study does not aim to assess or measure a hypothesis or variables but rather strives to provide insight into designing a collaborative community. Therefore, a quantitative research design is less suited for this study. To specify, a multiple case study is conducted in a certain period to find processes and patterns that result in a better understanding of the researched phenomenon (Swanborn, 2013).

§ 3.2 Case selection and research setting

This research is a multiple case study conducted at Cirkelstad Utrecht and Cirkelstad Drechtsteden in the Netherlands. Cirkelstad is a movement focused on a circular and social inclusive economy, which facilitates public and private frontrunners in their region by connecting, sharing experiences and jointly generating impact. Cirkelstad itself has no legal entity but is based on trust, openness and respect to connect each other. The aim is to create a rich landscape for lasting cooperation between partners. This can be about creating policy, standards, instruments or even the execution of a project. Cirkelstad has six different regions in the Netherlands. In each region various City's participate. In this research two different Cirkelstad cities are used as a case study. Though Cirkelstad fits the concept of a collaborative community, it's not fully a collaborative community yet. Partly because it is not exactly clear how a collaborative community in practice should look like. While Cirkelstad is one of the few organizations that fit the concept of collaborative community and is trying to grow into a collaborative community, they are an excellent object for this research.

When using multiple cases the possibilities of theory development increases greatly. By comparing these cases there is a better understanding of the patterns associated with the researched phenomenon (Bleijenbergh, 2015). The two cases are sharply distinct in one key dimension (lifetime) while being similar in other dimensions. Cirkelstad Drechtsteden is a fairly new city that became part of Cirkelstad, while Cirkelstad Utrecht was one of the first cities where Cirkelstad was active.

§ 3.3 Data collection

Given the research setting and research approach the data collection will be done by performing interviews. Interviewing individuals who work in organizations or individuals who deal with organizations, is an important form of data collection in qualitative research. By asking individuals about what they do within the organization and how they experience

the organization, the researcher gathers data in their own words (Bleijenbergh, 2015). The way in which those involved formulate their experiences themselves provides insight into their perception of the world, but also into the shared values within the organization. Like the other methods of qualitative data collection, interviews also have their limitations. An interview is a conversation between two or more individuals, in which social interaction plays a major role. This social interaction is both the strength and the weakness of this form of data collection. The social interaction between interviewer and respondent can motivate individuals to speak things that they might not otherwise say. But it can also slow respondents to be fair; individuals tend to give socially desirable answers to make the conversation enjoyable and perhaps even liked (Antwi & Hamza, 2015).

Interview	Organization	Language of interview	Group	Duration of interview
I1	Municipality Dordrecht	Dutch	Drechtsteden	1:01 Hour
I2	Heijmans N.V.	Dutch	Drechtsteden	1:05 Hour
I3	Julianahaven Recycling B.V.	Dutch	Drechtsteden	0:54 Hour
I4	Spinner Cirkelstad Drechtsteden	Dutch	Drechtsteden	1:11 Hour
I5	Housing corporation Trivire	Dutch	Drechtsteden	0:55 Hour
I6	Van Wijnen Dordrecht	Dutch	Drechtsteden	1:14 Hour
I7	Dura Vermeer	Dutch	Utrecht	1:07 Hour
I8	University of Utrecht	Dutch	Utrecht	1:25 Hour
I9	Province Utrecht	Dutch	Utrecht	2:10 Hour
I10	Sloopcheck	Dutch	Utrecht	1:08 Hour
I11	U10 Utrecht	Dutch	Utrecht	1:02 Hour
I12	Spinner Cirkelstad Utrecht	Dutch	Utrecht	1:24 Hour

Table 3 Overview of interviews

Interviews can range from highly structured to loosely structured (Symon & Cassell, 2012). In this study semi-structured interviews are used. In a semi-structured interview, the formulation of the questions is pre-determined. The order of the questions is sometimes fixed but can sometimes also change as a result of the course of the conversation. The questions are in basically open, so that the respondent can formulate answers in their own words. An advantage of pre-structuring questions is that the researcher can control which information will in any case be discussed during the conversation, without pinning the respondent down to a specific wording. In addition, pre-structured questions ensure that all respondents within a survey or within the same sub-category within a survey are presented with the same questions. This increases the reliability of the data collection. A disadvantage is that the pre-structuring

steers the conversation in a certain direction. Unexpected matters may be covered to some extent, at least more than in a survey, but the space to explore them in depth is somewhat more limited than in the unstructured interview. This can negatively affect validity (Symon & Cassell, 2012).

In this study the respondents for the interviews will be purposely chosen. With purposive sampling, participants are selected on their knowledge and their contribution, this to provide enough data to answer the research question of a study with a relatively small number of participants (Symon & Cassell, 2012). In this study twelve individuals out of two different Cirkelstad cities where interviewed. The respondents have a unique perspective within their communities, this to provide enough data and insight in de phenomenon. They are active within municipalities, construction companies, and other relevant organizations. Also key individuals within each city are interviewed, called spinners. In table 3 there is an overview displayed.

§ 3.4 Data analysis

For the data analysis the interviews are analyzed through a coding process. First, a verbatim transcript is made of the interviews. The interviews are conducted in the Dutch language while this was the first language of all interviewees. The transcription is also in Dutch to stick as close as possible to the original data source. Everything is transcribed but pauses and hesitations are ignored in the transcripts. If there are any hesitations or pauses that are pertinent to the situation, they are included in the transcription. Therefore, data loss is prevented. After the transcribes were completed, the transcripts wore forwarded to the participants for review and approval. Because there were no comments, there were no edits required.

Second, the interview transcripts are examined using template analysis. The template analysis approach is effective because of its flexibility and ability to create a priori theoretical themes that may be changed by empirical data. Template analysis does not prescribe a specific number of coding levels, but rather focuses on the formation of themes based on rich data. The approach calls for a thorough examination of the most significant facts in order to answer the research question given. Because template analysis posits that there are various interpretations of the phenomena, this analytical approach is appropriate for cases selected (Symon & Cassell, 2012). Based on the literature presented in chapter two, an initial template

was created. Further in an iterative process of applying, modifying and, re-applying a final template was created. Appendix B contains both the initial as final coding template.

§ 3.5 Quality of research

The quality of the research must be evaluated in order for the results of any research to contribute and represent signify something. Many researchers have addressed the question of what requirements should be used to evaluate the quality of qualitative research, yet the particular requirements they provide appear to differ depending on the research (Hammersley, 2009). The requirements proposed by Lincoln and Guba (1985) are used to assess the quality and trustworthiness of this research (Symon & Cassel, 2012). Credibility, dependability, confirmability and transferability are these four requirements identified by Lincoln and Guba.

The first requirement is credibility, which aims for a good match between the participants responses and what the researcher perceives (Symon & Cassel, 2012). To encourage honesty, participants were informed at the start of each interview that their names and provided information remain anonymous. With consent from the interviewees, the interviews were recorded and transcribed. This to avoid the loss of data and the and create the possibility of member checking. Dependability relates to how easily the research might be replicated by others and how comparable the results would be (Symon & Cassell, 2012). The research's theoretical, methodological and analytical choices are explained as thoroughly as possible. This provides the readers with transparency and allows them to assess whether the correct decisions were made. The requirement transferability refers to the extent to which a study's conclusions may be used to similar situations (Symon & Cassell, 2012). This study strives to make it as easy as possible for others to apply the findings to their own situations by offering as many detailed descriptions as feasible. Finally, confirmability refers to how honest the researchers were about where their findings came from, how they got to specific conclusions and does not contain any bias of the researchers (Symon & Cassell, 2012). To check for confirmability transcripts and coding are provided as attachment.

§ 3.6 Research ethics

For any type of qualitative research, researchers must also consider their ethical responsibilities. People who participate in research frequently disclose knowledge that may have ramifications for another person, department or the entire organization. It is critical for a researcher to collect and interpret data diligently and effectively, especially in a case study design (Symon and Cassell, 2012). In qualitative research issues of informed consent, anonymity, and privacy are critical. To ensure this the participants were informed upfront and participated voluntarily and willingly. The recording is only used to create a transcript for this study, and personal data is used anonymously. Following the completion of a transcript, the participants were given the opportunity to read it and provide their approval or request for correction in the case of any mistakes.

Chapter Four: Data analysis

As already argued, the collaborative community is a new organizational form that can facilitate collaboration among multiple organizations to achieve a common goal. In this chapter the findings of the data collected at Cirkelstad are presented. Each collaborative community, like a normal organization, still needs to think about their structural design parameters and some other high leverage elements. While analyzing the data four main variables were identified and divided this chapter in corresponding paragraphs (see figure 2). The first variable is concerned with the organizational structure of a collaborative community and its partners. The second variable considers the frame and purpose followed by the third, support systems. The last variable is the governance of Cirkelstad and its partners.

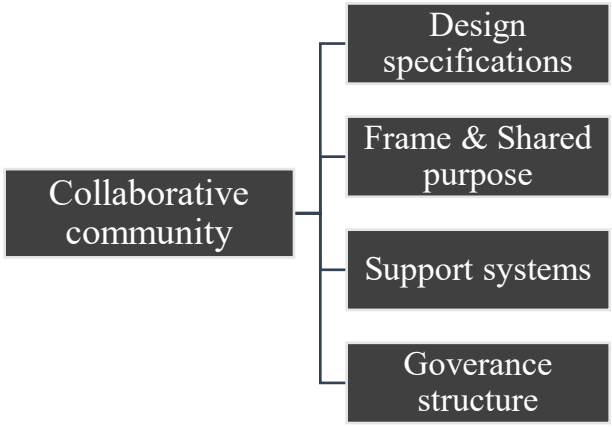

Figure 2 Results, elements of a collaborative community

§ 4.1 Design specifications

Cirkelstad was founded by public and private organizations seeking for answers to societal problems. '*How do we reintroduce residual flows into the network and make use of all of a city's talents?* (I4). Cirkelstad enables public and private leaders in the region by linking a governmental and operational network. Cirkelstad is not a legal body, and there are no additional regulations or commitments. People are connected together through trust, transparency, and respect for one other's function and position (I4, I12). Designed specifications only to provide a suitable environment for long-term collaboration among Cirkelstad partners. The results that these design specifications must meet are discussed further below. In figure 3 the results of the design specifications are displayed.

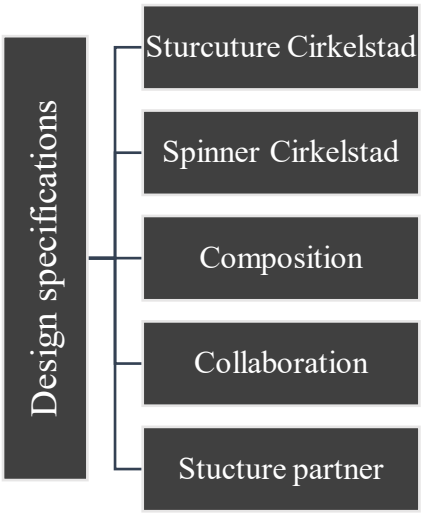

Figure 3 Results design specifications

General structure of Cirkelstad

The basic characteristic of Cirkelstad is that it is structured at the level of cities. Various cities or regions across the Netherlands are taking part in this. There is a national supervisory board overseeing all different cities. It is comprised of market leaders who have demonstrated what is achievable in their respective industries, in a way that you build in a circular manner while also giving individuals who are not currently involved, unemployed, a role (I7, I9, I12).

"The structure of Cirkelstad is, in my opinion, ultimately a handful of people who form the board, with a number of market leaders" (I7).

This is also the main purpose of Cirkelstad. Cirkelstad would not exist without its partners and has the ambition to form a collaborative community. The partners are involved in projects in the region that allow them to share their experiences. This can occur in different forms, for instance at a policy level, through the setting of standards, the use of certain tools, or the manner in which work is carried out. Each city or region has its own 'spinner,' it coordinates and monitors the progress of that particular Cirkelstad city. The spinner is in charge of how a shared purpose is formed and accomplished. In addition, the national overarching organization provides several types of programs and collaborations (I4, I6, I7, I9, I12).

Cirkelstad mostly consists of gatherings or meetings, also known as communities of practice (COP). In each region or city, these meetings among partners take place four times a year (I4, I5, I9). At the moment these meetings have been digitally due to Covid-19. Previously, this was done by visiting circular icon projects and sharing knowledge during integrated sessions on location (I1, I4, I7).

"It was pretty diversified before COVID-19, you also went on a project visit during a COP. Now, it's mostly online group discussions and presentations" (I4).

The sessions are designed to facilitate networking and knowledge sharing. During these COP's, the partners attempt to reach a consensus through for example presentations, questions and statements (I1, I9). The COP's are planned by the spinner, and the theme or target group is selected in advance. Together with the partners, the spinner seeks a subject for each COP. As a result the partners, in collaboration with the spinner, are the ones who give the program substance (I3, I4, I10).

A 'Spinner' within a collaborative community

The spinners are an important part of each Cirkelstad city and are also linked to the national core team (I4, I12). The spinner is responsible for several tasks. For example, the spinner connects, and invites partners and guests, to a specific region or city. As previously mentioned, the spinner works autonomous, but with the guidance and assistance of spinners from other regions (I4, I7, I9, I12). Furthermore, the spinner is directly involved in the challenges that the partners face and the questions they bring up. The spinner must be able to help these partners in their first steps into a more circular organization (I4, I12). To do this it is important that the spinner can communicate well, can be found for questions, and has a solid understanding of the circular economy. Whitin Cirkelstad the most important thing is to encourage regional projects, make sure that partners find each other and share knowledge (I1, I2, I4, I5, I6, I7, I8, I9, I12).

"In my opinion, this is about providing as much added value to the partners as possible, assisting them with their challenges, and satisfying their demands. On the one hand, to organize programming, but also to have one-on-one interaction and assistance with their issue. (I4)".

This way Cirkelstad wants to accelerate the circular economy within the Netherlands. The partners find excessive passion for building a community and circularity appealing and motivating. Without someone who takes charge it would be harder to reach the shared goal or the purpose of that city (I5, I6). The spinner is extremely committed to the cause and spends a lot of its time to it. To make this possible the partners pay a commission from which the spinner receives a fee. In return, the spinner commits to Cirkelstad a few hours a week (I4, I9, I12). Furthermore, spinners, like many of their partners are mainly concerned in circular initiatives. They combine work as a spinner most of the time with work for another, or their own organization (I1, I3, I4, I7, I10, I12). The spinner is fulltime available for partners but does not work fulltime for Cirkelstad.

"Cirkelstad is a network organization, and the spinner works for both Circle City and their own organization" (I1).

The composition of Cirkelstad

Within both Cirkelstad cities, Utrecht and Drechtsteden, there are established partners that have been members for a long time, but new parties join on a regular basis. Although you can join and leave whenever you want, the membership remains fairly stable (I2, I4, I7, I8, I9, I12). The Cirkelstad cities are composed of both public and private organizations. This includes for instance municipalities, provinces, water boards and universities. On the other hand, there are large construction & infrastructure companies, architects, housing corporations, demolition companies and consultancy firms. It can be tough for partners to decide which composition of public and private organizations is best. What is interesting for one partner has no added value for another. This all viewed from the perspective of their own organization. For example, some partners would like a more homogeneous composition where they can discuss the same challenges. So universities talking to other universities about their challenges (I1, I2, I8, I11). Other partners believe that heterogeneous composition leads to better answers more quickly with partners from the same region. While their knowledge about subjects differs, they can complement each other. From this perspective it would also be interesting to establish a link with those organizations who are not yet directly associated with Cirkelstad. For instance investors, developers, policymakers, and lawyers are among these organizations (I2, I3, I5, I6, I7, I10).

Collaboration in a collaborative community

All partners involved understand that they cannot create a circular economy on their own and that the full value chain is required. How then should organizations structure themselves that this required collaboration is fruitful, and what contribution has Cirkelstad in this. Cirkelstad is frequently portrayed by its partners as an organic connected community. With a central role to facilitate a network and function as a link between organizations for the circular economy (I2, I4, I5, I8).

"It is a collaboration of all organizations, you cannot attain your goals on your own, you must collaborate" (I5).

Cirkelstad facilitates this through COP's and other formal and informal meetings. Several partners of Cirkelstad see a number of conditions at the basis of a good cooperation. For example, our society and thus also partners of Cirkelstad, need to take responsibility together (I3, I4, I6, I7, I9, I12). Unfortunately, this is not happening the way it should yet. At the moment the spinner is in the lead, followed by a lot of discussions and talking. The actual needed action does not take place enough. Partners only spend their time parttime to the

shared cause. They engage in all kinds of other workflows at their own organization and have not got enough devotion to really make a change (I4, I7, I9).

"Cirkelstad attempted to collaborate on a project, unfortunately that didn't work because partners wanted to something together, but none of them wanted to bear any responsibility. It sometimes lingers too much in talking" (I1).

You could say partners sometimes lack focus and contribution from a collaborative community perspective. On the other hand, there is some progress, partners are collaborating on projects together. Due to Cirkelstad they speak the same language and know each other's strengths and challenges (I2, I3, I5, I6, I10, I12). Overall, one could wonder whether all of these partner organizations are ready to collaborate in this manner.

Structure of partners organizations

While there is hardly a formal structure present in a collaborative community like Cirkelstad, it is capable of creating a fluid structure as presented above. The partners of Cirkelstad are also a part of another organization, one with a formal structure. Apart from sustainability in general, they cannot deal with other issues within one's own organization since the variety is too large (I12). The organizational structure must be set up in such a way that collaboration and knowledge sharing is facilitated. At het moment, all partners are still working on their own projects, at their own organizations (I6, I7, I12). Especially within larger organizations there is usually a sustainability coordinator (I2, I7, I8, I9). It can be tough to communicate this massage throughout the whole organization when he is not involved in all levels. In a small organization it is easier to spread the word and get everyone along. On the contrary, it is encouraging to see that the organizations are not only focused on Circularity. They often have a more sustainable concept in mind for the organization, such as being biodiverse, socially inclusive, energy neutral, and so on (I1, I2, I4, I6, I8, I10).

"You'll also notice that the ecosystems between buildings and the surrounding region is receiving increasing attention. This in a way which these can reinforce one another though climate adaption, biodiversity, heat stress, acoustics, to name a few" (I8).

Despite the fact that Cirkelstad is only designed for Circularity and socially inclusive, partners want this narrow focus. This way they know where to direct certain questions and get specific information about these topics.

The amount of regulatory capacity assigned to the individual who participates in Cirkelstad also varies by organization. If an individual is provided with a great deal of freedom from his own organization, to carry out ideas gathered at Cirkelstad, it seems to contribute the most to innovative and circular ideas (I4, I6, I12). Small subsidiaries or shareholder-driven organizations have a harder time with this (I3, I10). The knowledge and ideas are there, but it is difficult because permission must first be obtained higher up in the organization. Partner I6, for example, is involved in operational tasks as well as regulating tasks. Circular projects monitored, assessed and the subsequent actions are determined by the same group of employees. As a result, regulatory tasks have limited differentiation and specialization. Partners with a higher degree of differentiation and specialization also appear to have a harder time applying what they have learned at Cirkelstad, in their own organization.

Differences design specification Cirkelstad Drechtsteden & Cirkelstad Utrecht

While Cirkelstad Drechtsteden and Cirkelstad Utrecht have different spinners, they differ also in structure. The COP's organized at Drechtsteden are slightly different form Utrecht. In Drechtsteden these meetings are planned and communicated way in advance. Each year the spinner shares an Excel document where all dates are set for the coming year (I1, I4, I5, I6).

"I frequently receive an excel spreadsheet that details which meetings are scheduled for which dates one year in advance. Not sure how they managed that in the background" (I6).

In Utrecht they are also scheduled in advance but not always a year in advance. Partners in Utrecht find it sometimes difficult to be present because their schedule was already full (I7, I8, I12). Drechtsteden is testing if it works better if COP's are divided by type of organization rather than a theme. It is namely hard to plan a relevant theme a year in advance (I1, I4, I5).

Cirkelstad Drechtsteden has started to collaborate with other Cirkelstad regions in the area. As a result, the number of COP participants have increased considerably. Now there are perhaps 50 to 60 potential partners. Doing the COP's online enables the partners to connect quite easily to several interesting themes or topics. You are also free to select which are most relevant to you. Because there are so many COP's now, you must make a conscious decision whether or not to attend. Previously, you always tried to join the four COP's of your own Cirkelstad. At Cirkelstad Utrecht the group is smaller with approximately 30 to 40 partners. Since this group has been so large for some time, partners indicate that they do not know each

other that well anymore. However, most of the time there is part of the group that joins regularly, and unfamiliar faces appear from time to time.

Both spinners appear to spend varying amounts of time on their Cirkelstad. I12 indicates that he is working as spinner for Utrecht one day a week, while I4 spends two or three days each week on Drechtsteden (I4, I12). This is also due to the fact that I12 is connected to several Cirkelstad cities. Partners at Drechtsteden feel better heard, perhaps a greater involvement of the spinner is essential in this. Furthermore, the spinners have different backgrounds and interests. One may focus on social innovation, building a community (I4). The other serves as a source of information and takes a guiding role (I12).

The two Cirkelstad cities have the same issues when it regards cooperation, the partners' organizational structures differ. If the organization is structured fairly flat, it is often more advantageous to partner up with Cirkelstad while they can add more value. Getting the organization on board is more challenging in a highly hierarchical organization (I2, I4, I7, I9, I12).

§ 4.2 Frame & Shared purpose

An essential element of a collaborative community starts with reflecting on the purpose of the community in light of the desired value proposition. The first step at Cirkelstad was to frame their purpose in relation to a certain value proposition. Therefore we need to understand what the partners purpose is and see if it matches Cirkelstads' shared purpose. Trust and openly sharing knowledge seems the foundation where Cirkelstad is built on.

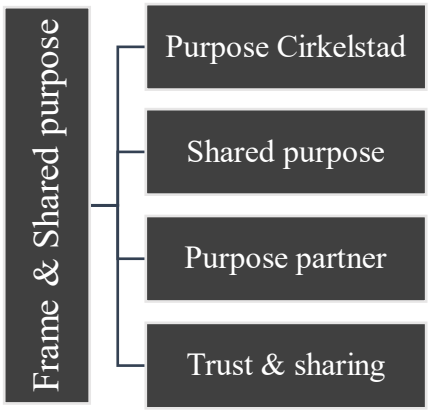

Figure 4 Results frame & shared purpose

Purpose Cirkelstad

Cirkelstad has committed to a certain purpose, *'geen afval, geen uitval.' 'Geen afval'*, which means as much that cities are full of materials these days that do not have to go to the dump. Materials need to keep their value by returning it to a product life cycle via maintenance, refurbishment, renovation or a proper demolition. Instead of waste this generates revenue by making new products for a similar application. 'Geen uitval', is about using talent within society that has not yet been discovered. It's mostly about employment for a pool of dropouts, resulting in a higher involvement, improved work and a strong social business case. This is possible because building and demolishing in a circular fashion requires more manual labor (I1, I2, I4, I5, I6, I7, I11, I12).

"Cirkelstad's objective is "zero waste, zero dropouts," thus its objective is bigger than just circular construction" (I9).

While Cirkelstad has its goal ready, society has not. Within the society you can see that circularity is still little understood. This includes a lot of municipalities, building corporations and other organizations while a goal of being fully circular in 2050 is clear (I5, I6, I9, I12). But because this goal is vague and far-off, it is not yet broadly acknowledged, and no one knows clearly what has to be done to attain it. As a result there is little legislation and regulation in place. I9 refers to it: "*As a society and as builders we are operating on a 40-year-old model that is neither sustainable nor innovative".* Circularity is still in its infancy, and each partner is discovering it in its own way. Ecosystems, biodiversity, climate adaption, energy transition and other sustainable improvements are receiving increased attention at the expense of circularity (I3, I5, I6, I8). Like some of these example's circularity has not yet

gained widespread acceptance. Organizations cannot yet foresee, or dare to imagine, what circular building may yield in the future. Or how much it will cost if they do not invest today for the future (I12). As a society, we still have a long way to go in terms of knowledge and understanding towards a circular economy with zero waste, and zero dropouts.

Interdependence towards a common goal or shared purpose

At Cirkelstad you will notice that many partners work towards a common goal or shared purpose. They want to accelerate together to create a circular economy. The partners know that this common goal is not easily achieved and are aware not every organization sees the same truth (I1, I2, I7, I8, I10).

"Without being the same, you just notice that the individual wants to attain the same goals or supports the same causes as you" (I8).

Some partners are more concerned with the goals of their own organizations, while another is more concerned with Cirkelstads' ambitions. What is important is that partners know how to find each other at Cirkelstad, that they can discuss their challenges and move towards their shared purpose (I2, I4, I6, I12). Different partners do not always speak the same language and, municipalities do not always understand the needs of the business and vice versa. Furthermore, there is an imbalance in the knowledge and skill set of various partners (I7, I8, I10). It's difficult to have a good discussion when one is way further, or has more knowledge on circular economy, than the other. Cirkelstad attempts to make it as easy as possible for partners to get on the same page and then are able to start a dialogue. This creates a common thread between all the different points of view (I4, I7, I12).

"You see an imbalance in knowledge and skills, so we all have to grow, that is typically the role of Cirkelstad. You have to involve all organizations within the chain. If a client grows and the market is not ready for it, you get a skewed relationship" (I12).

In the end, it's important that all the partners understand each other and are able to move on with their challenge within the own organization. This does not imply that everyone has to be like-minded. It is also possible that it is precisely because of contrasting perspectives and perceptions that you get much further. The complimentary nature of the various partners is after all widely appreciated by them. This way you can get into greater detail with each other and address challenges this way (I1, I3, I4, I6, I7, I10).

Not only the type of organization can be complimentary, also the distinction between small and large partners can provide opportunities. Although sometimes organizations with similar challenges are needed. Smaller, less experienced partners benefit considerably form the research and innovations form the frontrunners (I2, I6, I7, I8).

"Smaller organizations do not have a preparatory device to figure out what circularity is. These require that larger organizations invest in this and that the smaller organizations hear how they can give substance to this with their business model" (I7).

While on the other side, the frontrunners or lager organizations recognize that they cannot get a circular economy of the ground alone. This requires the participation of both sides. While sharing knowledge and collaborating they help each other further towards their circular purpose (I2, I6, I7, I8). In order to achieve this, partners must properly define their own challenges and dare to share them within their Cirkelstad. Because the network is so large and supportive, there is almost always someone who can assist, provide guidance, or has previously overcome the same challenge (I3, I4, I11, I12).

The participating partners in Cirkelstad can also differ in motivation. For instance, a passive attitude from a partner, can lead to less progress. Especially when a partner adopts a customer attitude they contribute less and therefore also yield less. For example, *'Because I pay to participate, you must provide me with a reasonable return on my investment.* (I8, I9)' As a result of this approach the partner will be less able to achieve their own organizational goals. Motivated partners that dare to be open about their challenges, ask questions and actively participate, get the most out of Cirkelstad and contribute the most to the shared purpose (I4, I7, I8, I12).

While some partners are more familiar with the Cirkelstad slogan then others, the circular economy tends to be the main goal. The supplementary social goal of zero dropouts within the community, is not equally clear for al partners or it is not their primary concern. Building in a more circular fashion and other sustainable targets is mostly where they plan on. Including dropouts and other social aspects can be of help here but you will note that only a few partners are aware of this (I1, I2, I4, I5, I6, I7, I8, I9, I12).

"Circular also incorporates a human element, social aspects, and such. I haven't heard much about it in Cirkelstad" (I8).

Even the spinners themselves do not go into great detail and recognize that this prospect is underexposed (I4, I12). On the contrary, it is not a major problem straight away, as long as al

partners are aligned towards the same shared purpose. It is rather that progress also resides in social innovation, instead of what is technically possible. Circularity is now failing due to people's inability to get together with one another rather than technical specifications (I4).

The purpose of partners organizations

For several reasons, organizations join Cirkelstad from their own perspectives. The partners are often working to improve their organization's sustainability and innovation (I2, I3, I6). However, there is still a part of the organizations that are not yet working on circularity or are unsure what it entails (I1, I3, I5, I11).

When it comes to sustainability, we are still in our infancy; we mostly use Circle City to gather information and to establish sustainability throughout the business. We are presently determining sustainability and the ambitious course of action" (I5).

Cirkelstads' network and knowledge are valuable assets in achieving these corporate objectives. Furthermore, it may be crucial for some organizations to benefit financially in the long run, in which case the organizations' key performance indicators are more focused on financial aspects. For many organizations, circular and sustainable goals do not yet go hand in hand with these financial goals (I3, I8, I10). However, circularity does not have to be more expensive, it depends on how you calculate and present your business case. Circular initiatives also have a residual value (I12). Beside financial aspects, participating in Cirkelstad as a partner also ensures that organizations are perceived as 'more' circular. Although Cirkelstad itself does not carry this label, the perception of Cirkelstads' partners within the network does (I4, I6). As a result, building a network at Cirkelstad has economical, sustainable and social benefits.

Some partners have more knowledge and experience than others. For municipalities, for example, the focus is frequently on other government-imposed issues. In recent years, many new programs have been addressed that the municipality gained charge of. This includes regional energy policies, biodiversity, social inclusion and other sustainable and social objectives (I1, I8, I9, I11).

"Now the focus is mainly on energy, the regional energy strategies, circular is something new of course. I'm the only one within the municipality officially doing that" (I1).

Not only municipalities are working hard to create a sustainable and circular path, new partners of Cirkelstad are often involved in this as well. Moreover, there is a sizable portion of the public that is not yet participated in any way, although these organizations have to follow

in the near future. These organizations primarily have a need for information, which they hope to fulfill at Cirkelstad (I3, I5, I11). As a result, many organizations have failed to fully embrace circularity. The spinners, on the other hand, imply that the goals of Cirkelstad are more likely to be met if the goals are shared throughout the whole organization. It's not likely to work if an employee does it adjacent to it as a job (I4, I12).

Other requirements exist for organizations that have developed a bit further. These partners are interested in influencing customer demand, establishing standards, and working on innovative projects. As a large organization they cannot afford to 'miss the boat.' (I2, I3, I6, I7, I10).

"We have formulated a number of bold statements when it comes to sustainability. For example, 100% circular in 2023. It's about discovering partners and suppliers, influencing visibility and customer demand" (I2).

Furthermore Cirkelstad is interesting for large organizations because of their large network, as a result, they have a greater understanding of what is coming. Not only in terms of innovations, but also in terms of legislation and regulation (I2, I7). Additionally, it provides them with the opportunity to take a leading role in this move to a circular economy. And essentially, these larger organizations realize that they cannot succeed on their own. Circularity must be implemented with various parties, from government to builders, both large and small. This task necessitates the participation of the entire value chain (I2, I6, I7). These parties are also aware that their presence at Cirkelstad provides them better opportunities for acquisition (I2, I6, I7). Overall, the purpose and goal of all partners organizations have a considerable influence on their input in Cirkelstad.

Trust and open knowledge sharing

It is critical to Cirkelstads' functioning that all partners openly share information and discuss challenges they experience. Being vulnerable can be challenging for some. This is due to the fact that the cooperation between partners is mostly based on trust. Only showcasing successes does not help accelerating circularity within other organizations and therefore does not help Cirkelstad either (I4, I6, I12). Openness regarding challenges in the process and how they are resolved are way more valuable (I4, I12).

"Partners are increasingly aware that it's not about the content, but rather how you set up a process together and that you then have an answer to that" (I12).

This information can be essential to help each other in taking the next steps in the right direction (I3, I6, I8). Mutual trust ensures that partners are willing to share more with one another. This might be challenging because there is often a lack of trust between client and contractor as a result of previous experiences (I2, I5, I9, I12).

"Between the client and the contractor, there is still a history of mistrust" (I2).

Covid-19 regulations and lockdowns have also had a negative impact on partners' trust relationships (I4, I6, I8).

"I believe we can improve our trust connection; Corona time did not help" (I4).

There were no physical meetings and partners only met digitally. So it seems Cirkelstad will start with a one-zero deficit. The ability to achieve a shared purpose requires trust. Cirkelstad makes this easier by helping people establish a common ground and understand each other better (I4, I5). For various reasons, one organization simply dares to open up easier than another.

As already mentioned earlier, the COP's are handled differently in each of the Cirkelstad cities. Past year, many of these sessions were combined with COP's from other regions. While it's easier to join digitally, it also means that partners know each other less well and, logically, trust each other less (I4, I5, I8). Additionally, the digital meetings also lead to a lack of informal encounters. Many partners remark that if regulation permits, they will prefer to rebuild trust through informal encounters and physical meetings at a project site (I1, I6, I8).

However, for some partners, being open all of the time is challenging. Tendering rules, for instance, state that municipalities and other public entities cannot and should not just disclose any information about the tender (I1, I8, I9).

"We are sometimes in a specific phase before we are putting out a tender. I can't just disclose Cirkelstads' partners certain information by accident" (I8).

After all, it must offer an equal opportunity for all participants, including organizations that are not affiliated with Cirkelstad. Partner organizations, on the other hand, may be cautious regarding patents, innovations and other new developments. They typically use these new ideas to obtain an advantage over the competitors. If this knowledge is shared openly, it is possible that their lead will vanish rapidly, and the investment made will not be recouped (I2, I3, I6, I7).

Many partners do indicate that they are or would like to be completely open. This is often because a genuine desire to move towards a circular economy. Both with their own organization and Cirkelstad (I2, I6). Nevertheless, it is not always necessary to share everything openly. Partners and spinners indicate that the process is more important than the actual content. Ultimately, every organization has to determine what this means for them and how this fits best (I4, I7, I12). After all, there is such a big circular challenge that cannot be done alone. So there is enough work to go around without interfering with each other as competitors (I12). It will be more challenging when partners are sitting at the table just for profit or to make acquisitions (I3, I8, I10). So it is good to create mutual trust and a shared purpose among the partners.

Differences frame & shared purpose Cirkelstad Drechtsteden & Cirkelstad Utrecht

Cirkelstad has set goals of zero waste and zero dropouts, though the Cirkelstad partners in Utrecht are currently concentrating on 'accelerating together.' These goals can go together but they want to achieve it faster. On the other hand this 'accelerating together' is somewhat unclear what is exactly meant. Partners from Utrecht can't explain this goal as well as the zero waste, zero dropouts (I7, I8, I9, I10, I11). Also the common purpose rises less directly during the interviews, compared to Drechtsteden. They understand better how to define the common goal. While the social aspect of Utrecht's goal has almost completely faded into the background, it is still vaguely present in Drechtsteden. In addition, partners at Drechtsteden often refer to pioneering together and wanting to share knowledge with each other. They take an active role in achieving circular goals as a society (I1, I2, I6). At Cirkelstad Utrecht there is also this shared awareness, but sometimes the focus is more on 'what do I get in return.' "*I want to be helped with circularity right now, because I am just tapping off a few thousand euros a year and have no idea what I am getting in return"* (I9). I9 is not alone, and the customer's attitude is more common. This appears to be reflected in the partners organization's goals as well (I8, I9, I10, I11).

Many organizations in Cirkelstad Drechtsteden are still primarily concerned with becoming sustainable, they see the need to evolve and adapt in order in the process towards circular 2050. They are primarily in the process of discovering. What does my organization desire in terms of sustainable policy, what is it, and how can I help (I1, I3, I5)? The partners that are further in Drechtsteden are focused on innovations and evaluating them. Then they want to share it with the community because they realize they cannot accomplish it alone (I2, I6). In Cirkelstad Utrecht though, the partners are more experienced. Many of them have developed extensive knowledge of circularity. This brings them in a position where they

question their membership since they now have the feeling that it costs more than it pays. What do I truly get out of it, and how can I make it more useful? Besides this, the experience has given them the desire to improve, set ambitious targets for themselves, and would like to have a guiding function (I7, I8, I9). This experience leaves a gap for new entries in Cirkelstad Utrecht. Subsequently, these partners are further apart in the field of circular knowledge. Whether new or established partner, their focus is less on being a unity then Drechtsteden.

Mutual trust is difficult to quantify in Drechtsteden as well as Utrecht, as it varies per organization. Both Cirkelstad cities may be too large in their current state for mutual trust. It appears to be sufficient, yet it could be seen as a risk. So there are no significant differences between the cities, but rather between the partners.

§ 4.3 Support systems

It has previously been identified that organizational structure must match the support systems. In all interviews partners mentioned the importance of Cirkelstads' role to facilitate knowledge sharing and networking. In addition, it is also important that there is a relation of trust between the partners. The right support system can make a huge difference in this. Sharing knowledge is really difficult to manage, but it is possible to facilitate knowledge sharing so it becomes easier. In figure 5 the results of the variable support systems are displayed.

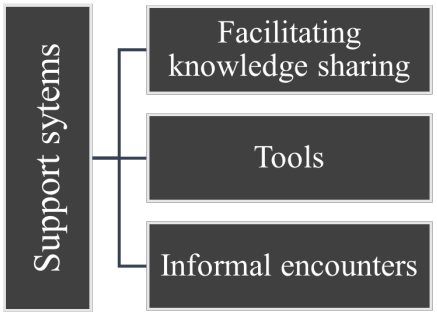

Figure 5 Results support systems

Facilitating knowledge sharing

Discussions with spinners and partners reveal that there is a limited number of options available for knowledge sharing. They are aware that the partners have a great deal of knowledge about circular economy. However, not enough time is spent at gathering and storing this knowledge (I4, I9, I12). For example, the COP's cannot be reviewed afterwards, nor can the topics discussed be consulted by members of other Cirkelstad cities (I4, I6).

"It would be nice if there was a place where you could review meetings or read a report back" (I6).

The tacit knowledge is not often made explicit. Each partner for instance, must develop its own way for properly sharing the knowledge and information gained at Cirkelstad, within its own organization (I1, I5, I11). This while it is important for Cirkelstad that the knowledge is widely shared throughout the partner's own organization. For example, many municipalities are asking for more and up-to-date information on circularity (I1, I9, I11).

Openly sharing knowledge between different organizations is hardly self-evident, particularly not between construction companies as we discussed earlier. If this knowledge is not accessible to everyone, each partner has less autonomy to develop themselves through self-organization (I4, I6). Nevertheless, several partners indicate that they share a great deal of information and knowledge within the COP's (I3, I6, I8). Trust is the foundation of this. Trust is frequently found to be present, but not yet completely. It is not surprising that partners do not disclose everything, but they do share a lot. Every organization must follow its own processes. Blindly copying expertise and information from other organizations does not provide the essential added value (I2, I4, I7, I8, I12).

"Everyone must apply their own creativity to arrive at an accelerated circular solution using shared information" (I7).

According to the spinner of Utrecht, the importance lies considerably more in sharing the process (I12). How did a partner tackle certain challenges correctly, rather than quickly presenting a biased solution (I4)? In addition, you see that Cirkelstad does not yet know exactly how they can best facilitate this open knowledge sharing, they are still searching for answers (I4, I12).

Tools

Cirkelstad has already made several attempts to make knowledge available to their partners on a national scale. The 'Cirkelstad Academy' is an example of a portal where you can find a lot of information (I4, I12). Many partners have heard of it but have not always made their way to it. It also appears that it was first openly available to the public but is now only accessible with credentials (I8). In addition, the Cirkelstad Academy is kept less up to date than before, and it seems that this tool is given less priority than its potential (I4, I8, I12).

"Cirkelstad Academy's website has a great deal of information. Previously it was open to everybody, now you require a login and is less frequently updated than before" (I8).

Cirkelstad does not have the capacity to develop these tools further, as they are oriented per city or region. Though they try to ask partners with a lot of knowledge and experience to develop this kind of tools and make them available for Cirkelstad and its partners (I4, I12). This is how the 'material passport' was created in collaboration with other Cirkelstad partners. This allows partners to determine whether or not products are circular. Certain key performance indicators (KPIs) ensure that products are easy to compare and assess. Cirkelstads' partners' needs are at the basis why these tools are developed (I4, I6, I7, I10, I12).

"A circular advisor once compiled a list of circular products, which he then handed on to Cirkelstad. They're now attempting to maintain it" (I7).

A third example of such a tool is the Cirkelstad newspaper. This is published quarterly and distributed to partners as well as other interested parties. Partners write the articles, its mainly about their challenges and circular projects (I4, I7). So there are a variety of tools available in Cirkelstad. COP meetings, on the other hand, appear to be the most important way to share information and knowledge. Other means of facilitating this have a lower priority. So there is still much to learn about effectively using support systems in Cirkelstad.

Informal encounters

The last and perhaps the most essential element of the support systems are the informal meetings among partners. These gatherings provide an excellent opportunity to meet each other, establish relationships, and learn to speak the same language (I1, I2, I4, I7, I10, I12). It is therefore not surprising that every partner interviewed refers to this aspect as a vulnerability. At the time of Covid-19 there were no informal meetings at Cirkelstad, these were done digitally. While this was a setback for all partners, some are more attached to the informal meetings than others (I1, I2, I4, I7, I10, I12). Spinners also notice this as well, for example, because they are required to facilitate considerably more between the partners (I4, I12). Normally, this would happen spontaneously over coffee or while driving together. Now the spinners have to connect in order to have the same contact. In particular the combination of formal and informal moments during meetings is considered as key to more effective partner cooperation (I3, I4, I6).

"It is better to connect the parties in a specific place, where you may have informal talks. You'll never be two ghosts strolling side by side and staring at a structure" (I7).

Differences support systems Cirkelstad Drechtsteden & Cirkelstad Utrecht

The support systems are mostly the responsibility of the spinners and Cirkelstads' core team. Although the spinners in Utrecht and Drechtsteden differ, both mainly focus on the COP's. Less emphasis is placed on how knowledge is actually preserved. While the spinner in Utrecht is increasingly involved in other initiatives and events that Cirkelstad organizes, perhaps this is why he does at least something with knowledge management (I4, I12).

In terms of tools, many Cirkelstad partners are either unaware of them or not actively using them. Differences are seen mainly at partner level, not so much between the two Cirkelstad cities. Since informal meetings were not possible last year there is minimal difference here as well. Partners from both Cirkelstad cities show the desire to get back together physically if it is possible again.

§ 4.4 Governance structure

Organizations require at least some centralization of decisions, also Cirkelstad. A collaborative community meets this by providing the flow of authority to those recognized as being the best positioned to contribute to the common purpose. This requires coordination among the partners themselves and play a significant role in leading Cirkelstad to its goals. In figure 6 the results of the variable governance structure are displayed.

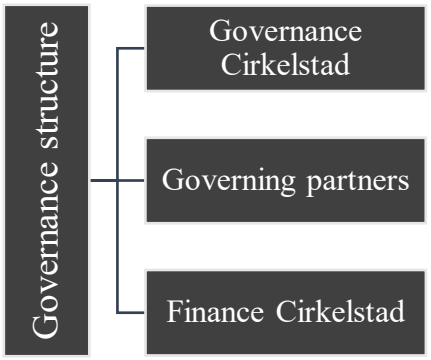

Figure 6 Results governance structure

Governance of Cirkelstad

Looking closer at Cirkelstads' governance structure, you will notice that there is a national body such as the supervisory board and a core team mainly filled with spinners. The local Cirkelstad cities and regions, on the other hand, operate autonomously. The supervisory board also includes directors who have political influence. The core team considers what is required and how Cirkelstad may better collaborate and coordinate (I4, I8, I9, I11). Furthermore, there is hardly any vertical coordination within the Cirkelstad structure while they are rather small, and so you can find the local spinners throughout the organization.

The spinner is a sort of leader within its Cirkelstad, but it is not the manager. It often makes decisions on the basis of collaboration with Cirkelstads' partners. Like a spider in a web, this spinner coordinates the agenda of a COP meeting, or it is in charge of setting up the annual program (I1, I2, I3, I4, I7, I9, I11, I12).

"Because it is in charge of the annual programming, the spinner has a lot to say" (I4).

In addition, the spinner is given the freedom to set their own stamp on how it organizes its Cirkelstad. Considering a setting where all partners are willing to expose themselves, be vulnerable. This is much easier in a setting where everyone is treated as equal and have also the freedom to make it their own Cirkelstad, with its own shared purpose (I4). But the partners need someone to lead, direct and connect them (I2, I5). As a group they picked a partner to be their spinner. In other Cirkelstad cities, Cirkelstad moves a spinner forward, mainly because a group of partners is not formed yet. Furthermore, partners coordinate with one another directly or via the spinner (I4, I12). As a result of this structure there is horizontal coordination. There is some differentiation of regulatory transformation into aspects and parts.

Namely, some of these actions take place both on a national level as well as a local level. The emphasis in governance is rather at a local level.

Governance partners

Even though Cirkelstad seems to be horizontally coordinated, it still takes someone to oversee and make decisions, the spinner in this case. Different partners value different things in their own organizations and hence allow themselves to be led in different directions towards the common goal (I2, I3, I7, I10, I11). The intrinsic motivation to achieve that common goal as a group should be the most important aspect. Some partners believe that network diversity is crucial in order to find the right partners to achieve the common goal (I2, I6, I7).

"I believe that diversity is vital" (I7).

Others may find it more interesting to simply acquire a basic understanding of Circularity (I4, I9, I11). These are different kind of incentives that encourage partners to work more circular or contribute more to the common goal. It would also help to work on a shared project together. However, it is precisely at this point that such a governance structure is found to be insufficient. While they should take responsibility together, there is no one to take the risk (I1, I4, I6).

The structure of the partner's own organization has already been discussed, but from this perspective we can see how their own governance structure effects Cirkelstad. Namely, Cirkelstad appears to connect better with partner organizations where decision making is decentralized (I4, I6, I12). Decentralized organizations are more inclined to see themselves as partners rather than customers. So the more centralized a partner's organization is, the more challenging it will be to put Cirkelstads' knowledge into practice (I3, I12).

Financing Cirkelstad

It is difficult because partners do not always consider themselves as a collaborative community of some sort. Some of the partners are more like customers, this due to the fact that they also pay to be a part of Cirkelstad. These partners may seek to gain a better network or knowledge in exchange of the fee, rather than focusing on a shared purpose. The purpose of their own company may be the sole objective (I8, I9, I11). Many partners who are enthusiastic about the shared purpose still find it difficult to justify the financial fee inside their own organization (I3). This because there is no direct return, nor is there a sudden increase in earnings. As a result, staying member for a longer period therefor presents them with some difficult choices. While it is a burden for some partners, it has some other aspects.

This financial contribution also imparts a sense of ownership. In a case where no contribution was required, partners were also less critical and had a passive attitude (I9, I12).

"In Amersfoort the municipalities maintained the finance for Cirkelstad for three years. Those partners all have a different mindset, 'I'm getting a lot without any effort'. When you pay, you become rather critical" (I12).

So a fee appears to be a partial solution for preventing freeriding. However, it does not seem that the best method has been found yet. Some partners, for example, urge the government to play a much larger role since it might help fund a better Cirkelstad implementation across the country (I9, I12). It is also clear that money is required in some form or another to cover the organization's overhead. Perhaps alternative finance methods may be more in line with Cirkelstads' ambitions and fitting a collaborative community desire to be (I4, I12).

Differences governance structure Cirkelstad Drechtsteden & Cirkelstad Utrecht

At both Cirkelstad cities there is a spinner with the same responsibilities and so the same governance structure. However, their backgrounds differ, as do their leadership styles (I4, I12). The spinner in Drechtsteden, for example, concentrates on community development, whereas the spinner in Utrecht is more a facilitator (I4, I12). Although Cirkelstads' governance structure is the same for both, related partners are not necessarily the same. Partners in Utrecht have often been members for a longer period of time, given the fact that this Cirkelstad has been around for some time longer (I7, I8, I9, I12). This also means that these partners are more familiar with Cirkelstads' governance structure. Many had previously worked with another spinner who is one of Cirkelstads' frontrunners. In addition they are more familiar with the general structure of Cirkelstad (I7, I8, I9, I12). Cirkelstad Drechtsteden is relatively new and therefore most of their partners are only familiar with the spinner (I1, I3, I5, I6). Finally, the financial aspect seems to play a greater role at Cirkelstad Utrecht. This could have an impact on Utrecht's direction but also on the members of the community. They may be less easily guided towards a shared purpose, and their emphasis could be on their own organization (I5, I8, I9, I11).

Chapter Five: Conclusion and Discussion

First, an overall conclusion will be given on the basis of the research question posed in chapter one. In the next section, a discussion and reflection are presented on the used methodology and limitations of this research. Lastly, practical and theoretical implications are provided, as well as recommendations for further research.

§ 5.1 Conclusion

To address today's societal challenges, a more thorough and effective understanding of complex organizational structures, such as a collaborative community, is required. Guided by a new paradigm for interorganizational collaboration, and the need for a better understanding, the purpose of this research is to better understand how to (re)design organizations for a collaborative community. The research question is as follows:

´Do the suggested design elements support the design of a collaborative community?'

The expected design elements, 'design specifications', 'governance structure', 'frame and shared purpose' and 'support systems', feature also in the collaborative community of Cirkelstad. To answer the research question posed above, we examine how each element contribute to the design of a collaborative community, beginning with the design specifications.

Design specifications for a collaborative community

Previous research, shown in chapter two, presented ways to ensure an appropriate fit between its structure and coordination mechanisms. The perspective on various organizational design theories, their design parameters and essential variables, provide a better understanding on how then we organize within organizations. A STS design perspective is chosen while it seems to be the best fit for a collaborative community. The organization should be a simple structure with a low structural complexity. Furthermore, it needs to minimize internal control and coordination while adding value by grouping activities that contribute to some type of shared purpose. The collaborative community has fluid informal boundaries and consists of a unique set of multilateral actors with T-shaped skills who are self-organizing.

Cirkelstads' production structure as well as control structure are both captured in the role of a spinner. As these are combined, it attenuates disturbances as much as possible and at the same time amplifies the regulatory capacity to deal with disturbances. If we take a closer

look at the production structure, all operational tasks required to realize Cirkelstad are grouped together and a spinner 'prepares', 'makes' and 'supports' an 'order'. A spinner, thus, has low parameter values, witch result in high essential variables, and so an adequate organizational structure. The partners, on the other hand, play a less prominent role in Cirkelstads' structure. Still they arrange and present the COP's, and support others in their challenges as needed. They score low on De Sitter's second parameter, the grouping of operational sub-transformations. Because Cirkelstad has yet to effectively undertake a project together, assessing the functional concentration and specialization of operational transformations (parameter 1 & 2 from a STS-design perspective), is difficult. However, the functional concentration seems to be fairly low since each partner within a Cirkelstad team has its own skillset. A Cirkelstad city should thus have all of the skills needed to complete a Circular project successfully. If not, their fluid boundaries make sure their team is always ready for the challenges they face. The specialization of operational transformations is perhaps higher because of their specific skillset. It is difficult to tell if the partners have the required T-shaped skills. Aside from that, you can see Cirkelstad experimenting with its own functional requirements. COP's are provided in a variety of formats at the request of partners. They just do not fully understand how to satisfy all partners and achieve the desired result. This is then reflected in the external functional requirements, such as the ability to innovate.

When building a collaborative community, interorganizational collaboration is required, the frame is broader than for a single organization. This means that Cirkelstads' production structure may not be independent from the partners' structure. This perspective emphasizes the rise of interdependence. When the partners describe their respective organizational structures, it is clear that they are vastly different, but they all imply that they cannot achieve their goals without one another. Because of these distinctions, it became also clear that an organization with a simple structure and low structural complexity is a better match with Cirkelstad. The common goal is then more easily achieved because the operational element of becoming circular, must be done by the partner himself. So, a simple structure with low structural complexity could be a prerequisite for improved collaboration in the form of a collaborative community.

Governance structure for a collaborative community

An organizational structure can be defined as 'a network of related tasks', consisting out of two sub-structures. The production structure that is already discussed in the paragraph above, and the control structure, what is explained now. The control structure is about the

amplification of regulatory capacity to control the desired organizational structure. In the concept of a collaborative community, it appears that centralized authority has no role because each partner decides on their course autonomously as they are committed to the ultimate values rather than anyone's command. Still an organization requires al least some centralization within their control structure. The collaborative community addresses this by delegating authority to individuals seen as being the best positioned to contribute to the organizations common goal. The partners themselves play an important role in leading their Cirkelstad, this requires mutual adjustment and self-organization. Authority is given from below rather than delegated from above. It relies on trust and commitment to the common good.

At Cirkelstad, on a city or region level, the flow of authority has been allocated to the spinner and partners. It seems that the spinner is best positioned to fulfill this centralized role. Both spinners have an important role in their communities in the Cirkelstad regions where the research was conducted. They have their own organization who is focused on connecting organizations on a circular level. While this was already their main drive, they took on this role as a spinner on behalf of Cirkelstad. This does imply that they are proposed by Cirkelstad, rather than chosen collectively by the other partners in the region. Regardless of this process, the partners do agree that the spinners are essential and perform their tasks properly. There is no question about their capacity to do so or whether the appropriate individual person has been chosen. As a result, we see participatory centralization in practice at Cirkelstad. The spinner collaborates with the partners to make the required decisions.

For an adequate organizational structure Cirkelstads' control structure can be evaluated based on three design parameters. Low value on these parameters lead to an adequate organizational structure. While the local Cirkelstad regions operate mainly autonomously they have a lot of regulatory capacity. Strategic regulation, regulation by design and operational regulation are combined in the task of the Spinner for their Cirkelstad region. Also the monitoring, assessing and acting are in control of the spinner and its partners. Thus, the level of differentiation seems to be kept to a minimum at Cirkelstad. Still, there is on a national level also a core team, and a supervisory board at Cirkelstad. These mainly exists out of spinners, and market leaders. This could impact the level of specialization of regulatory transformations in the Cirkelstad regions. Because the governance structure on a national level hasn't been examined thoroughly enough, it is difficult to determine the extent

to which these effects. Overall, it seems that Cirkelstad has an adequate control structure and seems to fit a collaborative community.

Also in this design element for a collaborative community, Cirkelstad cannot be seen as independent from the partner's governance structure. Organizations with high parameter values on the control structure have a difficult time to convince their own organizations and get decisions through. Partners who have the regulatory capacity needed are able to deal with disturbances they face. These organizations may put the knowledge they gained from Cirkelstad to a better use.

A frame and shared purpose for a collaborative community

The design of a collaborative community starts with the reflecting on the purpose of the community in light of a certain environment and the desired value proposition. This framing is necessary in order to better understand the way in which the purpose could be achieved, or which intervention is needed to improve the functioning of the collaborative community in the context of the stated value proposition. Furthermore, this needs to be a shared purpose. A collaborative community is built on this shared purpose which establishes shared values and norms. It is the bases of trust-based collaboration, partners now wat to expect from one another. Trust lies within a wider social context as a communal ethic, or moral responsibility, to rely on each other. Apart from the basis, four design characteristics could help to define a collaborative community. Namely, informal boundaries, contribution based not on contracts, output of knowledge and services, and build on open sharing of ideas and knowledge.

Looking at Cirkelstads' value proposition, 'zero waste, zero dropouts', we can see that they have attempted to clearly frame one. They attempt to break new ground in the field of a circular construction economy, while society is not ready for it. By linking public and private organizations in their region, Cirkelstad facilitates networking and knowledge sharing in light of their proposed value proposition. Partners at Cirkelstad are not always like-minded but try, to reach consensus towards a shared purpose. Simply by interacting with one another and discussing recent challenges, they try to take a step forward together. As a result, partners' circular goals are being adjusted or refined. Ultimately, you will also see the effect of these steps in society where we all build in a circular fashion. At Cirkelstad there is a sense of belonging, a basic sociotechnical element. Partners are dealing with the same challenges, and it is great to be working on circularity as a united group. It turns out that this collaboration is not self-evident in the construction industry. This affects the trust-based collaboration and

open sharing of knowledge. Partners at Cirkelstad report a high level of mutual trust. However, there are some exceptions on openly sharing knowledge here and there, due to laws and regulations or financial interests of the partner. This is also affected by the knowledge or experience gap between partners. In addition, partner organizations often have set their own goals that are sometimes contradictory or contribute to a lesser or greater extent to the shared value proposition. The basis for a collaborative community appears to be present, but mutual trust and working toward a single value proposition could be improved. The four design characteristics help in defining likely causes.

Cirkelstad has fluid and informal boundaries it seems. But not all who contribute to a output of constructing in circular fashion are member of Cirkelstad. A lot of parties that are actively involved in circular construction are member though. A part of society is missing because you are not just a member of Cirkelstad, their boundaries are not as fluid as they appear. A monetary contribution is required to actually become a member, only then you get full access to Cirkelstads' knowledge and network. While this may seem fair, it contradicts the concept of informal boundaries where anyone who's best positioned with respect to Cirkelstads' value proposition should be able to contribute. In practice, you can see that Cirkelstad and its partners struggle to give proper substance to this while it's some sort of contract. Without they notice that the partners motivation is not intrinsic enough to make the same progress. Apparently, the contribution of partners is not solely based on reputation building, intrinsic motivation or voluntarism. You also see this struggle around openly sharing ideas and knowledge, it becomes difficult if you can only gain access with a paid membership. Although the partners discuss a lot freely with each other, you can see that the shared value proposition may not be achieved so quickly though the knowledge gap it creates. Overall, Cirkelstad attempts to match the proposed design characteristics, but still struggles with the practical implementation.

Support systems for a collaborative community

To successfully scale up the value proposition of a collaborative community, a set of integrating mechanisms for linking and aligning partners within and across projects is required. A set of community designed tools, or support systems can stimulate the exchange of information, but also ensure a relation of trust between the actors of the community. These tools should be developed to facilitate dialog focused on understanding how the shared purpose can be best pursued. The tools themselves should then be the product of a dialog aimed at deciding which tools might best achieve this goal. Aside from that, the supporting

systems must be consistent with the structure of the organization. Although knowledge itself cannot be managed but incorporating knowledge management systems can facilitate it by improving the quality of the environment. Support systems that can be considered are facilities and tools needed to carry out the activities, open information systems, human resource systems, and informal encounters.

At Cirkelstad there are a variety of support systems they use. The majority of them have been developed on a national level in response to the request or need of partners. The materials passport is within Cirkelstad the most noted and establishes a norm for circular materials throughout the construction industry. The fact that this tool is created for and by partners of Cirkelstad, fits well with what we expect in a collaborative community. This is also true for the newspaper which is published quarterly. Partners wright articles at the request of others or perhaps they wish to share their circular experience. Cirkelstad also offers a knowledge repository, 'Cirkelstad Academy'. Unfortunately, this tool is not widely known, or partners do not know where to find it. In addition, the Cirkelstad Academy is not kept up to date, so it seems that this tool is given less priority than its potential. Although Cirkelstad facilitates knowledge sharing within the COP's, they are not actively working on tools to support this. The spinner is mainly the one who knows the one who has the information. This tacit knowledge is hardly made explicit. Also the exchange of knowledge between different Cirkelstad cities is solely facilitated by the spinner.

Lastly, informal meetings are another important support system. These informal encounters establish the foundation of a trust relationship and encourage individuals from various organizations to better bond. Although Cirkelstad held informal meetings prior to Covid-19, unfortunately non were held last year. All Cirkelstad partners interviewed missed these informal meetings and noting the drawbacks on mutual trust and making it harder to find each other. Cirkelstad, at the moment, remains small enough to survive without support systems that are well-equipped. On the other hand, they wish to grow as an organization in order to attain their proposed value rationale. Circular and socially inclusive should become the new standard nationally. Accelerating together can be improved by well-designed support systems, and it provides a better foundation to build on.

§ 5.2 Discussion

Conducting research necessitates methodological, theoretical and analytical judgments. Although every effort is made to create decisions that allow for the highest possible quality of study, all decisions impose limitations on the research and researcher. It is critical to discuss these limitations because they provide context, allow for an interpretation of the validity and allow for an assessment of the trustworthiness of the research done. As a result, this section discusses the limitations in the categories.

5.2.1 Theoretical implications

The organizational environment as we know it is changing fundamentally. Limitations of traditional organizational designs, which typically are based on hierarchy as a primary means of control and coordination, have become increasingly apparent. This research contributes to the need for a interorganizational organizational forms that go beyond the boundary of a single organization. While these organizational forms emerge in the organizational environment there is no clear design framework to support the appearance of a collaborative community. This thesis contributes to organizational design and interorganizational literature in multiple ways. First there is a theoretical exploration of different organizational design theories, their design parameters and essential variables. Theories from Mintzberg (1979), Thompson (2003), and a STS-design (De Sitter, Den Hertog & Dankbaar, 1997) offer a better understanding of how to organize an appropriate fit between an organizations structure and its coordination mechanisms. The clear representation and explanation of the STS-design provides the most useful perspective for designing a collaborative community. Furthermore, the STS-design theory is not only useful for defining a framework for a collaborative community, but this research also found that it's useful to determine if the partners organizations have an appropriate fit between their structure and coordination mechanisms.

While the concept of a collaborative community fits within interorganizational literature, there is little to none research how this relates to the designs for these organizations (Mohr & Dessers, 2019). Within this research there is a theoretical exploration of the interorganizational literature, combined with an organizational design perspective four design elements are proposed. These refine and test the existing ideas about the structure and coordination of a collaborative community. It thereby bridges the literature gap between designing for a single organization or designing for a interorganizational collaboration based on a collective value rational. It demonstrates that a collaborative community has the potential to provide a solution to a wide range of social and organizational concerns from a design

perspective. Additionally, it exposes the vulnerability of traditional organizational design theories that attempt to design an organization as an independent entity. These fail to explain the cross-boundary collaboration like this research has shown at Cirkelstad. The proposed elements provide a foundation for (re)designing options and enhances our understanding for designing interorganizational organizations.

5.2.2 Practical implications

This research can give Cirkelstad and other organizations that try to form a collaborative community insight in what elements they should design for to function better. A better insight in the design elements give Cirkelstad and others the opportunity to see where or not they have a mismatch what can be improved. For Cirkelstad this starts at the core of their existence. The shared propose the try to achieve is not the main driver for all partner organizations. This sometimes creates a difficult situation or partners leaving while they still have a valuable contribution towards Cirkelstads' goal. Collaborative communities should always challenge their goals set with their partners to see if they are still on course or want to adjust. Namely, it has to be a shared purpose for everyone. As a result they need to take a closer look at their financial model to keep Cirkelstad running. Although there is a need for a contribution at the moment, it weakens the foundation of a collaborative community. By means of this financial model they cannot share all knowledge openly, this causes friction with their ultimate goal to nationally construct fully circular.

To scale up the effort of a collaborative community more support systems are needed. The spinners and partners lack the ability to move the entire nation on their own. By focusing on what is truly required the spinner and partners can add more value. A database with basic knowledge of the circular economy or basic courses about circular building could help to get new partners faster up to speed. This should not be used on its own but should be accompanied with in-depth knowledge clips of some sort, on a certain topic. In this way, new partners are faster up to date and can contribute at a greater scale.

It also demonstrates that a collaborative community in this form is not just a concept, but it already works in practice. You can get a long way with a shared purpose and committed people to that cause. Organizations should not be concerned because they have nothing to lose in dealing with such transcending challenges. Rather, it makes an organization vulnerable to the environment it operates in, stagnation could mean decline. So it also shows that Cirkelstad is not only participating in a meeting. Organizations need to be simple and flexible to be able to adapt to challenges that are beyond the borders of a single organization.

5.2.3 Limitations & Recommendations for future research

As mentioned, twelve interviews were conducted among two different Cirkelstad cities, a multiple case study. This way the perspective was broader than a single Cirkelstad city but was still able provide the detailed level of information that is not possible with other methodologies. The respondents were selected on their various backgrounds while keeping in mind the balance between public and private parties. Despite the fact that it provides an good impression of these cities, it may be argued that generalizing the results to the entire organization or even to all collaborative communities is only possible to a limited level. Different forms of collaborative communities that have emerged in our society may cast an entirely different light on the provide design elements. During the analysis, quotations of respondents were used to substantiate argumentations. However, as this thesis is written in English and the interviews were conducted in Dutch, these quotations are translated. Alongside, the researchers native langue is Dutch and has a limited understanding of the English language. So translation could possibly result in misunderstanding or misinterpretation of the data presented.

Guided by a new paradigm, this research focused on interorganizational collaboration to deal with today's societal challenges we see emerging these days. In literature there are plenty of overlapping terms and concepts for these interorganizational forms. Future research should be done to get a more comprehensive idea of what all of these adaptive and self-organizing collaborations entail. At the moment there are too many different terms and definitions, making it difficult to focus and tell the story these organizations require. Research on this subject needs to mature and present a widespread framework that can be tested and refined along the way.

Without this framework it is difficult to identify an organization that fulfills what we currently mean by a collaborative community. As a result, the decision was made to consider Cirkelstad as an organization that fits these criteria we see now, but is this the case? As you can see in previous chapter, there are still a number of inconsistencies between the theory and Cikelstad. For instance the semi-formal membership organization instead of a fluid and open community. Is the ultimate goal of all partners the value rationale of Cirkelstad projected? One could argue that this is not the case and Cirkelstad is more a ecosystem, network organization then a collaborative community. But also identifying Cirkelstad as these collaborative efforts provides mismatches. Whatever label is used, currently none of them completely fit. On the other side, the proposed design elements for a collaborative community

are already visible. Zooming in on the various elements would be beneficial so that it is clear which parameters and essential variables belong were. The STS design approach combined with these elements can already provide a good direction for a general design.

This research is done in the context of Cirkelstad, allegedly a collaborative community. They are not the only organization that have the characteristics of a collaborative community. While there are more interorganizational collaborations that apply new solutions to different societal challenges, its necessary to investigate which organizational design structures are used and fit best. Perhaps these are more effective and give new insights, or they see the same design elements as in a collaborative community.

There appears to be a variation in how the partner organization is structured. A simple structure appears to adapt better to the flexibility needed for a collaborative community. It will be interesting to see whether these patterns arise in other organizations that see themselves as a collaborative community. This might also be explored within other interorganizational collaborations.

The researcher has a specific role in the research process. To begin, the researcher started the study at a different collaborative community. Due to the Covid-19 outbreak and other complications the study continued with a different organization. This provided the researcher prior knowledge of the subject, which may have influenced the participant with a preset opinion. Furthermore, there were periods in which the researcher made no progress, it was therefore difficult to pick it up again. Although the researcher tried to make the best of it, this may have had negative effects on the process and may have influenced the results.

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Appendices

Appendix A Interview protocol

Opmerking: laat de participant zoveel mogelijk aan het woord. Stimuleer dit door te vragen naar voorbeelden, korte stiltes en hoe en waarom vragen.

Naam Participant: Functie: Locatie:

Introductie Allereerst wil ik u graag bedanken voor u tijd en moeite om deel te nemen. Voordat we met het interview beginnen wil ik mijzelf kort voorstellen. Ik zal ook mijn studie kort toelichten. Ik ben Teun Gootzen en studeer op het moment Organisational Design & Development op de Radboud Universiteit in Nijmegen. Op het moment doe ik onderzoek op het gebied van organisatie structuur en probeer elementen te identificeren die, organisaties zoals Cirkelstad, zouden kunnen ondersteunen hiermee. Hierbij gaat het vooral om het vinden van nieuwe en betere manieren om samen te werken tussen organisaties.

Voordat we beginnen wil ik u toestemming vragen om het interview op te nemen. Deze opname zal alleen door mij worden beluisterd en zal worden gebruikt om het interview uit te werken. Daarnaast zou ik eraan willen toevoegen dat deelname het interview geheel vrijwillig is. U kunt zich op elk moment terugtrekken mocht u dit nodig achten. Het is daarnaast ook goed om te weten dat er geen goede of foute antwoorden zijn, het gaat om een beter beeld te krijgen van de huidige samenwerking.

Algemeen

Eigen organisatie?
Hoe zou u de organisatie Cirkelstad beschrijven?
- Hoe bent u betrokken bij Cirkelstad?

Welke activiteiten verricht u met Cirkelstad?
- Kunt u dit verder toelichten?

Hoe draagt u bij aan Cirkelstad of de doelen van Cirkelstad, wat levert het op?

Kader & Doel

Wat zijn de uitgangspunten van Cirkelstad?
- Hoe verhouden deze zich tot andere Cirkelsteden?
- Wat is volgens u het doel van Cirkelstad, hoe komt dit tot stand?
- Hoe verhouden de doelen van Cirkelstad bij uw doelen als Partner?

Wat is voor u de rede om deel te nemen aan Cirkelstad?
- Gaat dit goed? Wat kan beter?
- Hoe wordt je geholpen in je doelstellingen?
- Wederkerigheid?

Design Specificaties

Hoe is dat dan georganiseerd?
- Hoe heb je meer structuur of sturing nodig?

Welke activiteiten worden er in deze Cirkelstad uitgevoerd?
- Heeft u hierbij een voorbeeld of toelichting?

Hoe zijn activiteiten binnen Cirkelstad verdeeld?
- Neemt u of andere partners ook activiteiten op zich?
- Hoe stemt u de activiteiten van Cirkelstad af binnen uw organisatie?

Op welke manier zijn activiteiten van elkaar afhankelijk? (sequentieel, gebundeld, wederkerig)
- Hoe worden deze activiteiten op elkaar afgestemd?
- In hoeverre is er sprake van zelfstandig werken of zelfmanagement?
- Hoe werkt de afstemming tussen Cirkelstad partners en verschillende activiteiten?

Support Systems

Op welke manier wordt er samengewerkt bij Cirkelstad?
- Hoe wordt u daarbij geholpen?
- Welke middelen biedt Cirkelstad om het samenwerken te bevorderen?
- Van welke faciliteiten maakt Cirkelstad gebruik?

Hoe ervaart u het samenwerken met andere organisaties binnen Cirkelstad?
- Waarom werkt u samen?

Op welke gebieden werkt u het meest samen met andere partijen?

Hoe wordt kennis en informatie gedeeld?
- Is deze kennis en informatie openlijk beschikbaar?

Welke vormen van beloning biedt Cirkelstad? (Wat levert het op).

In hoeverre kennen partners elkaar persoonlijk?
- Wordt dit gefaciliteerd?
- Hoe vindt sociale interactie plaats?

In welk opzicht is er spraken van vertrouwen binnen Cirkelstad?
- In hoeverre kunt u rekenen op u partners?
- Hoe is dit terug te zien/ kunt u een voorbeeld geven?

Bestuur

Hoe worden besluiten genomen binnen Cirkelstad?
- In hoeverre mag u zelf beslissingen nemen?
- In hoeverre mogen andere zelf beslissingen nemen binnen Cirkelstad? Hoe verloopt de afstemming met u 'eigen' organisatie?
- Hoe is uw eigen organisatie georganiseerd?
- Hebben andere organisaties veel invloed op beslissingen?

In hoeverre is leiderschap binnen Cirkelstad belangrijk?

Hoe laat je je sturen als partner?
- economische kracht/ vertrouwen/ hiërarchie

Dit zijn alle vragen van het interview, heeft u zelf nog iets toe te voegen of vragen?

Appendix B Coding templates

Initial coding template	**Final coding template**
Design Specifications - Structure Cirkelstad Drechtsteden - Structure Cirkelstad Utrecht - Origin Cirkelstad - Structure Cirkelstad - Structure own organization - Spinner - Composition Cirkelstad *Frame & Shared purpose* - Purpose Cirkelstad - Purpose own organization - Shared purpose - Trust - Collaboration - Circular society *Support systems* - *Facilities & tools* - *Human resource systems* - *Informal encounters* - *Open information systems* *Governance structure* - *Finance* - *Governance*	*Design Specifications* - Collaboration - Structure Cirkelstad - Structure partner - Composition - Spinner Cirkelstad *Frame & Shared purpose* - Purpose partners organization - Trust & open knowledge sharing - Shared purpose - Purpose Cirkelstad *Support systems* - Facilitate knowledge sharing - Tools - Informal encounters *Governance structure* - Finance Cirkelstad - Governance Cirkelstad - Governing partners

Appendix C Coding design specifications

Indicators	Dimensions	Variable
Samenwerking met eigen bedrijf en Cirkellab. I4	**Collaboration**	**Design specifications**
Samenwerking Zuid-Holland en Drechtsteden I4		
Doel bereik je niet alleen, je moet samenwerken I5		
Organische organisatie I5		
Verbindend coöperatief model met betaald lidmaatschap I2		
Denktank met circulaire normen I10		
Netwerk of Cluster-organisatie. De uitvoering ligt bij partners I1		
Kennis vinden en verspreiden I1		
Gezamenlijk sparren als opdrachtgever en nemer I3		
Netwerken en kennis delen I6		
Community moet voorspelbaar en betrouwbaar zijn I8		
Soort community, verbinder voor circulaire economie I8		
Netwerken meer faciliteren bij ontbreken informeel contact I12		
Jaarkalender voor de COP's, samen met Zuid-Holland 16 keer I4	**Structure Cirkelstad**	
Alle sessies nu digitaal, live weer belangrijk I4		
Via vragen en stellingen tijdens COP tot antwoorden gekomen I5		
COP's dit jaar per doelgroep I1		
Meer Cirkelsteden samen omdat dat digitaal gemakkelijk is I1		
Je bent vrij om aan te sluiten wanneer je wilt I3		
Excel lijstje met alle COP's een jaar vooruit I6		
COP's kun je deelnemen en contact leggen, netwerkfacilitering I9		
Wilt weten wat wanneer behandeld wordt, nu ad hoc I7		
Voor Corona afwisselend, nu COP's, geen projectbezoeken I7		
Landelijk worden projecten georganiseerd I10		
Achter Cirkelstad zit een franchise formule I9		
Handjevol vormt bestuur en RVT met koplopers markt I7		
Steeds meer Cirkelsteden, minder goed wie doet en waarom I8		
Format voor ambassadeurs die zelf lokaal vormgeven I2		
Rutger hoofd daaronder vallen spinners, eigen verantwoording I6		
Sommige partijen al lang, sommige nieuw I4	**Structure partner**	
50 tot 60 partners, één op één aandacht moeilijk I4		
Benieuwd naar indirecte netwerk van partijen I2		
Soms met best weinig en zelfde partners I8		
In staat zijn goede verbindingen te maken, open partners nodig I8		
Ander soort partners aantrekken, bellegers & ontwikkelaars I5		
Verschillende partner belangen in een groep I10		
Lokaal perfect middel I6		
Lidmaatschappen redelijk stabiel, grotere spelers in de kern I12		
Gericht op bouw infra en gebiedsontwikkeling I4	**Composition**	
Niet reguliere werk het is extra I1		
Blijft hangen in praten, mist verantwoordelijkheid I1		
Geprobeerd project samen op te pakken I6		
Niet duidelijk wat we doen, soms lukraak een onderwerp I8		
Waarde bieden voor partners en ondersteunen in vragen I4	**Spinner Cirkelstad**	
Hoe bouw je een community, dat is een leuke uitdaging I4		
Communicatie en heeft overmatig enthousiasme I5		
Vraagt door naar wat je nu echt bedoeld of wilt bereiken I3		
Aanjagen en motiveren om deel te nemen en bij te dragen I6		

Ik voel me gewoon geen klant, of is dat de verhouding niet I9		
Spinners dragen de thema's aan, partners de invulling I7		
Weet waar iedereen mee bezig is en probeert te koppelen I8		
Zit in kernteam en besteed een dag aan bouwen community I12		
Super leuk om mensen te verbinden I12		

Appendix D Coding frame & shared purpose

Indicators	Dimension	Variable
Projecten zijn aandeelhouder gedreven, mooi praten maar niet leveren. I9	Purpose partners organization	Frame & Shared purpose
Bedrijven organiseren innovatie maar de overheid loopt achter I9		
Wij komen brengen om de lat hoger te leggen naar concrete prestaties I7		
Een podium om te laten zien dat we duurzaam en innovatief zijn I7		
Circulair, gezond, energieopwekkend, functioneel bouwen is ons doel I8		
Ik krijg de ruimte om een landelijke beweging op gang te brengen I4		
Het netwerk, bepaalde kennis, en n soort Cirkelstad label is interessant I4		
Zelf bezig met duurzame koers te bepalen, vooral informatiebehoefte I5		
Staan voor betaalbare huurwoningen, dat betekent dat niet alles kan I5		
100% Circulair ‘23, ontdekken, zichtbaarheid, klantvraag beïnvloeden I2		
Netwerk vergroten en kennisdeling als voorwaarde richting subsidie I10		
Het is interessant en geeft een belonend gevoel I10		
De focus op energie, biodiversiteit, klimaat adaptief, circulair is nieuw I1		
Ambtelijk niveau kennis ophalen, niet het wiel opnieuw uitvinden I11		
Welke onderwerp bestuurlijk interessant. RESsen slokken aandacht op I11		
Beter beeld wat op je af komt zodat je over 50 jaar ook nog mee doet I3		
Sommige zien het als netwerk, sommige als acquisitiepunt I12		
Samen doen, hele organisatie moet dit ademen, is niet maar één taak I12		
0% afval in 2025, dit kunnen we niet alleen, de hele keten nodig I6		
Deur gaat sneller open omdat ze ons al kennen i.p.v. koude acquisitie I6		
Een wederzijdse motivatie om elkaar te helpen, basis van vertrouwen I7	Trust & open knowledge sharing	
Veel verschillende gezichten, geen persoonlijke relatie dus minder open I8		
Eerlijkheid en transparantie is belangrijk, vertel gewoon waarom iets is I8		
Corona heeft niet veel geholpen voor vertrouwensrelatie I4		
Sommige vinden het lastig om zich kwetsbaar op te stellen, hulp vragen I4		
Bouw niet gestoeld op vertrouwen, nu wel delen en openheid nodig I5		
Wantrouwen tussen opdracht gever -nemer, kunt niet 100% open zijn I2		
Het vertrouwen is vrij hoog, anders ga je niet in zo’n netwerk I1		
Niet alles gedeeld vanwege patent, waarom niet samen ontwikkelen? I3		
Soms gereserveerd, doel zelf financieel beter worden, 95% open&eerlijk I3		
Iedereen denkt over de inhoud maar het gaat over het proces I12		
Ik deel wat ik kan en mag, soms zelf ietsjes meer I6		
Ik betaal en wil geholpen worden, nu weet ik niet wat ik daarvoor krijg I9	Shared purpose	
Eerst samen pionieren, laat het ontstaan, vervolgens de rode draad I7		
Faciliteert gesprekken om elkaars taal te spreken, verbinding succesvol I7		
Sociale aspect nog niet heel sterk, circulair vraagt meer mankracht. I7		
Voor kleinere partijen uitzoeken lastig grote eerst invulling aan geven I7		
Community voor circulaire economie, eigen organisatie dan niet top prio I8		
Betaal serieus geld meer gefaciliteerd word in verbindingen sterk maken I8		
Je hoeft niet gelijkgestemd te zijn, complementair team is sterker I8		
Menselijke factor, sociale aspecten nog bijna niets over gehoord I8		
Inclusiviteit meer aandacht hebben, verandering zit in sociale innovatie I4		
Partijen weten elkaar beter te vinden en aan de slag te gaan samen I4		
Kwetsbaar opstellen kom je verder dan achteroverleunen I4		
Je bereikt het grotere doel niet alleen, je moet het samen oppakken I5		
Je vind enthousiaste mensen, dat heb je in het begin nodig, pionieren I2		
Gemeenschappelijke taal ontwikkelen, iedereen uit de voeten kan I10		
Kunt sparren samen, niet constant tegen de stroom in hoef peddelen I10		

Mensen met afstand tot arbeidsmarkt, bij uitstek geschikt voor I1		
Beeld wat je nu hebt los laten, circulair zet je echt anders aan het denken I3		
Onbalans kennis & vaardigheden, met z'n alle groeien, keten betrekken I12		
Concurrentie bestaat niet, dat praktiseren we hard, er is werk zat I12		
Zelf de vraag definiëren, het antwoord zit altijd wel ergens I12		
Weet niet zelfde doel hebben, maakt niet uit, als er een bijdrage is I6		
Missie was geen uitval, geen afval, breder dan alleen circulair bouwen I9	**Purpose Cirkelstad**	
Corporatie, succes hangt af intrinsieke motivatie partijen die mee doen I9		
Zowel circulaire economie als inclusieve maatschappij I4		
Circulariteit tot stand brengen en op een natuurlijke manier verbinden I5		
Mooi initiatief met een utopisch doel, 100% circulair in 2030 I3		
Wetgeving is voor achterblijvers, wat we kunnen doen is zelfregulering I12		
Gelijkgestemden verbinden die met het zelfde onderwerp bezig zijn I6		
Nu een model wat we al 40 jaar doen, niet duurzaam, niet innovatief I9		
Staat nog in kinderschoenen, iedereen ontdekken op eigen manier I7		
Meer aandacht voor ecosystemen, klimaatadaptatie, biodiversiteit I8		
Ben blij als een project 25% haalt, 100% niet nog niet mogelijk I4		
2050 circulair nog niet breed gedragen, nog voor niemand duidelijk I1		
Op het moment nog niet veel wet en regelgeving over circulariteit I6		
Het is ook durven voorstellen wat circulair bouwen in toekomst oplevert en voorstellen wat het kost als je het niet doet I12		

Appendix E Coding support systems

Indicators	Dimension	Variable
Binnen Cirkelstad zit zo gigantisch veel kennis door Nederland, als je daar meer tijd in steekt heb je echt een prachtig platform. I5	Facilitate knowledge sharing	Support systems
Het is wel aan ons om dat dan verder te brengen in eigen organisatie en aanbieden aan collega's, zij moeten het uiteindelijk gaan gebruiken I1.		
Iedereen moet z'n eigen creativiteit gebruiken om met de gedeelde kennis, versneld, naar een circulaire oplossing te komen. I7		
Het mooiste zou zijn als allerlei partijen hun beleidsstukken en vraagspecificaties zouden delen op een platform, ik denk dat dat nog een drempel te ver is. I5		
Cirkelstad heeft een belangrijke rol in het faciliteren van gemeenten. Het is een vraagbaak en faciliteert een kennisniveau voor ambtenaren. I11		
Hoe ga je kennis delen op deelaspecten van inkopen en ambitie, definitie, uitvraag, juridische toetsing, gunning, contracten. En hoe kun je daar aanspraak op maken, dat zijn we uit het vinden.I12		
Circulaire normen worden gepubliceerd op de website van Cirkelstad zodat ook andere partijen dat kunnen zien I7.		
Hoe kun je mensen die interesse hebben een handreiking doen in de vorm van documenten en toestanden om ze die eerste ingrediënten aan te kijken. Online speelt daarbij een belangrijke rol. We zijn daarbij ook filmpjes en lezingen op het nemen. I12		
Op de website, Cirkelstad Academy, vind je heel veel. Eerder vrij toegankelijk, nu inloggen en minder actief dan vroeger. I8	Tools	
Op basis van de behoefte van partners worden hulpmiddelen ontwikkeld. I4		
Het is niet altijd door ons ontwikkeld, dat reiken wij wel de partners aan. I4		
Cirkelstad landelijk heeft een stadsblad en een nieuwsbrief. I4		
De Cirkelstad online Academy werkt in mijn I4 ogen nog niet echt. Moet nog wel een slag geslagen worden om er echt wat uit te halen.		
Er zijn lijsten met circulaire partijen en welke producten ze hebben. Dat kun je gaan googelen maar dan kom je lang niet overal. I2		
De circulaire product catalogus zou je commercieel kunnen wegzetten of juist open source houden. Hierin is gedefinieerd wat belangrijk is voor circulariteit en neemt een certificering achtige rol. I10		
Op de website staan vrij veel tools, ik kijk eigenlijk weinig daar op. I1		
Het bezoeken van icoon projecten maakt het een stuk relevanter. Gewoon met je neus erop zitten en zien wat circulariteit kan zijn en voor jezelf dan een vertaling maken, wat kan ik daaraan bijdragen I7.	Informal encounters	
We hebben vorig jaar nog wel een keer een live bijeenkomst gehad, voor de rest helemaal niet. I4.		
We hebben een keer een uitstapje gehad naar de Mariapolder. Dat is effectiever als je elkaar ziet en inspireert. Daar zou ik eerder tijd vrij voor maken dan een videomeeting. I5		
Online is de bijdrage wat minder, dan kun je in principe gewoon je computertje opstarten en gaan zitten en niks doen. I1		
Ben blij als Corona dadelijk afgelopen is, dan kunnen we fysiek bij elkaar komen en met name op de relatie sfeer nog veel meer stappen zetten. I3.		
Nu moet ik meer faciliteren zodat partners tussentijds contact zoeken, dit omdat het informeel kletsen er nu niet bij is, dat gebeurt vaak bij het koffiezetapparaat. I12.		
Ik vond het leuk dat ze het altijd op een lokale plek deden en even met elkaar brainstormen. Had meer het gevoel dat we het met elkaar deden. I6		

Appendix F Coding governance structure

Indicators	Dimensions	Variable
Gebrekkige financiering vanuit het rijk heeft bijgedragen aan een gebrekkige implementatie van Cirkelstad. I9	**Finance Cirkelstad**	**Governance structure**
Dat stukje zelf betalen is altijd heel logisch, dan organiseer je eigenaarschap ook als overheden. I9		
Daar zitten veel kleinere partijen waar ook een redelijke financiële bijdrage gevraagd wordt en daarnaast voldoende input aan projecten moeten kunnen leveren. Dat kunnen veel kleine partijen niet. I7		
De financiële contributie of wat we moeten betalen aan Cirkelstad, wat ik er nu op dit moment uit haal, kan ik dat echt niet meer verantwoorden. I8.		
Drechtsteden is een van de Cirkelsteden met een aanjager, een coöperatief model, met bedrijven die lidmaatschap betalen en nadenken over topics en met elkaar verbonden zijn. I2		
In Amersfoort dreef het op de gemeenten die de Cirkelstad drie jaar financierde. Die partners hebben allemaal een houding van, voor niks ga ik veel horen. Als je betaald dan wordt je een beetje kritisch. I12		
Die grote halen we niet meer echt binnen omdat ze de waarde er niet meer van inzien. Die moeten elke keer goedkeuring gaan halen. Wat lever dat op? Sommige kunnen dat verhaal niet vertellen. I12		
Sommige bedrijven zien de meerwaarde, die worden landelijk partner I12		
Ik snap de financieel lastige situatie. Cirkelstad is een soort netwerk organisatie die over gaat naar een coöperatie die gewoon keihard geld nodig heeft om z'n mensen te betalen en de overhead. I9		
In de raad van commissarissen zitten gewoon een aantal mensen die directe toegang hebben tot politieke partijen, die moeten komen tot invulling van circulair in een nieuw kabinet. I9	**Governance Cirkelstad**	
Ik heb gewoon ieder jaar een functioneringsgesprek. Ik kan me voorstellen dat je met de spinners ook kijkt van wat is je missie hoe geef je uitvoering hier aan. Wat vinden jou partners I9.		
Volgens mij komt het bestuur van Cirkelstad eens per week samen en stemmen dat af met de raad van toezicht. Ze proberen veel in samenwerking te doen.I7		
Wat ik fijn vind is dat de spinners de ruimte krijgen om hun eigen stempel op de Cirkelstad te drukken. I4		
Het is belangrijk om een vrije setting te creëren tijdens de bijeenkomsten, dat doe ik soms ook door mezelf kwetsbaar op te stellen, dingen die ik niet weet of waar het bij mij zelf niet goed gaat en een gevoel te geven van iedereen is welkom. Je mag zeggen wat je denkt I4		
De spinner heeft veel te zeggen over de jaarprogrammering omdat die daar verantwoordelijk voor is I4		
En als je kijkt naar Cirkelstad is dat heel organisch. Er is wel een aanjager, joh we moeten weer een keer wat gaan doen. Met elkaar bepalen we dan hoe we dat moment gaan invullen. I5		
Besluiten worden met elkaar genomen I6.		
Ambtenaren hebben niet altijd direct contact met de wethouder. Als de wethouder iets wil gaan ambtenaren lopen I11.	**Governing partners**	
Er liggen nog veel kansen bij de organisaties zelf. Nu is de kennisdeling en borging van die kennis afhankelijk van een enkeling binnen de eigen organisatie. Het moet in hun DNA zitten I4		
Wij zijn decentraal georganiseerd en van elke werkmaatschappij binnen onze organisatie is iemand aangehaakt bij Cirkelstad. I7		

Diversiteit van het netwerk belangrijk, weg blijven bij sales platvorm I2		
Cirkelstad zou bij wijze van spreken een project moeten starten waar iedereen aan mee kan doen. Dat zou heel gaaf zijn I1		
Informatie, contacten en kennis. Op een gegeven moment moet dat zorgen voor een heldere ambitie en resultaten boeken. I5		
De waarde voor partners is denk ik enerzijds is het netwerk interessant en anderzijds dat ze ook bepaalde kennis kunnen halen I4		
Voor mij is vooral belangrijk dat je andere ook met de zelfde ambitie ziet en merkt dat diegene de zelfde doelen wilt bereiken. I8		
Een beloning is voor mij al het faciliteren van kennisdeling. Dat je op een eenvoudige manier aan de juiste kennis komt. I7		
Je onderscheid in de markt en kun je op thema's voorop lopen. I7.		